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SOLAR-GEOPHYSICAL DATA
(comprehensive reports)

U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service

JANUARY 1974

NUMBER 353-PART II
DATA FOR
JULY 1973
JUNE 1973
& MISCELLANEA

U.S. DEPARTMENT OF COMMERCE
Frederick B. Dent, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
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ENVIRONMENTAL DATA SERVICE
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Solar - Geophysical Data

NO. 353 JANUARY 1974

Part II (Comprehensive Reports)

DATA FOR
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NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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SOLAR - GEOPHYSICAL DATA

No. 353

Issued in two parts

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Solar - Terrestrial Data Services Division

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For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

SOLAR FLARES
Confirmed

JULY 1973

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JUL	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MONATH PLAGE REGION	CMP DAY	MIN.		CONO.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH HG	MAX. INT. %	
053 BOUL	01	0312	0022D	0016	N12	E61	.875	12417	5.6	10D	--F		V	0016		.60			2
GRP49055	01	0753	0809	0757	N12	E62	.883	12417	6.0	16	-N				.48				5 5 4 9
MEUD	01	0746	0803	0755	N12	E64	.899	12417	6.1	17	-F		C						
CRON	01	0753	0806	0758	N13	E64	.899	12417	6.1	13	-N		V	0758	.46				
CANR	01	0754	0805	0755	N14	E58	.851	12417	5.7	11	-N		V	0754	.41	.70			
CATA	01	0755	0805	0755	N11	E63	.891	12417	6.1	10	-N	3		0755	.40	.89	1.74		
ATHN	01	0756	0827	0800	N12	E61	.875	12417	5.9	31	-N	3	C		.66				DE
061 BOUL	01	2132E	2158	2132E	S07	E44	.787	12414	5.2	18D	--F		V	2133	.70	1.00			2
	02	0145	0154	NO FLARE PATROL															
GRP49066	02	1807	1815	1809	N05	E33	.544	12417	5.2	8	--F				.26				2 2 1 5
MEUD	02	1807	1815	1809	N04	E35	.573	12417	5.4	8	-N		C						
MCMA	02	1809E	1809D		N05	E31	.515	12417	5.1		-F		P	1809	.26	.30			D
	02	1852	1914	NO FLARE PATROL															
GRP49067	02	2105	2118	2109	S07	E33	.565	12414	5.4	13	-N				.78				2 2 2 2
PALE	02	2105	2115	2109U	S07	E32	.551	12414	5.3	10	-N	3	C		.36				F
BOUL	02	2106E	2121	2109	S06	E34	.575	12414	5.4	13D	-N		V	2109	1.20	1.40			
	02	2116	2145	NO FLARE PATROL															
	02	2205	2225	NO FLARE PATROL															
068 BOUL	02	2332E	2335D	2335	S06	E33	.561	12414	5.5	3D	--N		V	2335	.70	.80			2
6 STATIONS REPORTING GROUP 49072. 4 STATIONS OBSERVING AND NOT REPORTING.																			
GRP49073	03	0719	0731	0723	S06	E30	.520	12414	5.6	12	--N				.83				4 4 3 9
MEUD	03	0717	0729D		S06	E28	.491	12414	5.4	12D	-N		C						
ZURI	03	0720	0736	0724	S06	E36	.603	12414	6.0	16	-N		C	0724	.73	.80			
MONT	03	0721	0728	0724	S06	E27	.476	12414	5.3	7	-N		C	0724	.72				
CRON	03	0722E	0730	0722E	S07	E27	.481	12414	5.3	8D	-F		V	0722	1.03				
49072	03	0725	0745	(0734)	S07	E28	.496	12414	5.4	20	*-F				.21				2 2 1 9
ISTA	03	0725E	0745		S06	E28	.491	12414	5.4	20D	-F								
UPIC	03	0734E	0734D		S07	E27	.481	12414	5.3		-F		P	0734	.21				E
GRP49075	03	1540	1556	1541	N14	E24	.440	12417	5.5	16	--N				.28				3 3 2 6
BOUL	03	1539	1602D	1541	N15	E24	.446	12417	5.5	23D	-N		V	1541					
CATA	03	1540	1550	1540	N14	E25	.454	12417	5.5	10	-N	3		1540	.29	.32	1.66		
MCMA	03	1542E	1542D		N14	E24	.440	12417	5.5		-N		P	1542	.26	.30			D
	03	1739	1750	NO FLARE PATROL															
	03	1800	1824	NO FLARE PATROL															
	03	1828	1844	NO FLARE PATROL															
	03	1855	1906	NO FLARE PATROL															
GRP49076	03	1927	1945	1934	N15	E23	.432	12417	5.5	19	--N				.52				4 4 3 4
RAMY	03	1922	1935D	1932	N15	E22	.419	12417	5.5	13D	-N	4	C		.74				DE
HUAN	03	1923	1945	1936	N15	E23	.432	12417	5.5	22	-N	2	C	1936	.46	.51			
PALE	03	1928E	1931D	1928U	N15	E23	.432	12417	5.5	3D	-N	3	C		.36				F
BOUL	03	1935	1946D	1939	N15	E22	.419	12417	5.5	11D	-N		V	1937		.80			
GRP49078	04	0202	0238	0215	S08	E13	.294	12414	5.1	36	-B				1.89				2 2 2 3
CRON	04	0201	0238	0211	S08	E12	.282	12414	5.0	37	1N		V	0211	2.06				
CRON	04	0201	0238	0206	S08	E12	.282	12414	5.0	37	-N		V	0206	.93				
PALE	04	0202	0225D	0218	S07	E13	.284	12414	5.1	23D	-B	3	C		1.71				DE
GRP49079	04	0932	0944	0938	N15	E15	.324	12417	5.5	12	--F				.46				6 6 5 6
MONT	04	0929	0940	0936	N15	E15	.324	12417	5.5	11	-N		C	0936	.41				E
CATA	04	0930	0945	0940	N14	E15	.315	12417	5.5	15	-F	3		0940	.29	.30	1.45		
ATHN	04	0930	0942	0936	N14	E15	.315	12417	5.5	12	-N	3	C		.66				F
MEUD	04	0930	0942	0938	N16	E15	.335	12417	5.5	12	-F		C						
ARCE	04	0933E	0933D		N14	E15	.315	12417	5.5		-F		C	0933	.42	.40			
ZURI	04	0940	0950	0942	N15	E14	.312	12417	5.5	10	-F		C	0942	.52	.50			
GRP49081	04	1229	1238	1233	N15	E14	.312	12417	5.6	9	--N				.76				4 4 2 6
MEUD	04	1222	1235	1230	N14	E14	.302	12417	5.6	13	-N		C						
BOUL	04	1228	1238	1230	N15	E12	.288	12417	5.4	10	-F		V	1230		.60			
ATHN	04	1228E	1236	1231	N14	E17	.341	12417	5.8	8D	-N	4	V		.66				DE
ZURI	04	1238	1244	1240	N15	E13	.300	12417	5.5	6	-N		C	1240	.85	.90			
085 RAMY	04	1718	1742	1724	S06	E07	.200	12414	5.2	24	--F	3	C		.56				DE 2

Note: Catania and Capri-S express Maximum Intensities in percent of the local undisturbed chromosphere instead of percent of the local continuum. Parentheses are used to indicate this difference.

SOLAR FLARES
Confirmed

JULY 1973

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JUL	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	NOAA PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
GRP49086	04	1821	1847	1826	N15	E11	.276	12417	5.6	26	--N				.46				3 3 2 3
BOUL	04	1821	1843	1826	N15	E12	.288	12417	5.7	22	-F		V	1826		.70			
RAMY	04	1821	1850	1823	N16	E11	.289	12417	5.6	29	-N	3	C		.37				DE
PALE	04	1821	1835D	1830	N15	E11	.276	12417	5.6	14D	-N	3	C		.55				F
087 RAMY	04	1925E	1931D	1931	S07	E07	.214	12414	5.3	6D	--F	2	C		.46				DE 2
088 PALE	04	1948E	2005	1957	S07	E07	.214	12414	5.3	17D	--F	3	C		.72				F 4
089 PALE	04	2125	2143	2131	N15	E11	.276	12417	5.7	18	--F	3	C		.27				2
090 MCMA	04	2249E	2249D		S07	E03	.184	12414	5.2		--N		P	2249	.31	.30			EH 2
GRP49091	05	0114	0136	0120	N12	E11	.241	12417	5.9	22	--N				.66				2 2 2 3
PALE	05	0114	0136	0117	N11	E11	.231	12417	5.9	22	-N	3	C		.91				F
MANI	05	0120E	0135	0122U	N12	E11	.241	12417	5.9	15D	-N	1		0122	.41	.43			F
GRP49092	05	0229	0236	0232	N16	E08	.258	12417	5.7	7	--F				.24				2 2 2 3
PALE	05	0229	0236	0232	N16	E08	.258	12417	5.7	7	-F	3	C		.27				
MANI	05	0230E	0236D	0231U	N15	E07	.235	12417	5.6	6D	-F	1		0231	.21	.21			H
093 PALE	05	0254	0258	0254	S09	E03	.219	12414	5.3	4	--F	3	C		.27				2
098 RAMY	05	1912	1935D	1914U	N16	E02	.223	12417	5.9	23D	--F	2	C		.19				DE 4
GRP49099	05	2201	2231	2206	S07	W12	.272	12414	5.0	30	--N				.86				3 3 2 3
PALE	05	2201	2231	2205	S07	W12	.272	12414	5.0	30	-N	3	C		.99				F
BOUL	05	2202E	2224D	2207	S07	W11	.260	12414	5.1	22D	-F		V						
MCMA	05	2205E	2231D		S06	W13	.275	12414	4.9	26D	-N		P	2205	.72	.70			E
100 PALE	05	2251	2303	2255	S08	W12	.283	12414	5.1	12	--F	2	C		.27				F 2
101 PALE	06	0040E	0052	0041U	S07	W10	.249	12414	5.3	12D	--F	2	V		.26				DE 2
102 ATHN	06	0543	0606	0547	S06	W10	.237	12414	5.5	23	--F	2	C		.33				DE 4
GRP49106	06	0727	0743	0732	S06	W13	.276	12414	5.3	16	--N				.51				8 8 8 10
CATA	06	0725	0740D	0740	S07	W14	.299	12414	5.3	15D	-N	3		0740	.29	.30	1.66		
MONT	06	0726	0735D	0728	S07	W11	.261	12414	5.5	9D	-N		C	0728	.41				D
ATHN	06	0727	0745	0730	S07	W13	.286	12414	5.3	18	-N	2	C		.50				DE
CANR	06	0728	0736	0730	S06	W13	.276	12414	5.3	8	-N		V	0730	.41	.40			
UPIC	06	0728	0743	0730	S05	W14	.281	12414	5.3	15	-N		P	0730	.85				KF
ABST	06	0728	0735	0730	S06	W11	.250	12414	5.5	7	-N		C	0730	.90	.90			DJ
ABST	06	0728	0745	0732	S08	W14	.309	12414	5.3	17	-N		C	0732	.90	.90			DZ
MANI	06	0729E	0735D	0730U	S06	W12	.263	12414	5.4	6D	-B	2		0730	.52	.54			HX
TEHR	06	0733E	0747	0734	S06	W12	.263	12414	5.4	14D	-B	3	V		.17				DE
TEHR	06	0733E	0747	0743	S06	W12	.263	12414	5.4	14D	-N	3	V		.25				DE
GRP49112	06	1214	1229	1220	N02	E11	.192	12427	7.3	15	-N				1.13				3 3 3 6
HUAN	06	1213	1228	1221	N02	E11	.192	12427	7.3	15	-N	2	C	1221	1.13	1.16			
CATA	06	1215	1235	1220	N01	E10	.178	12427	7.3	20	-N	3		1220	1.73	1.76	1.91		
CANR	06	1215E	1225	1218	N02	E11	.192	12427	7.3	10D	-N		V	1218	.52	.50			
GRP49113	06	1353	1416	1400	N02	E10	.175	12427	7.3	23	-N				1.20				11 11 11 11
CATA	06	1350	1420	1355	N01	E09	.162	12427	7.3	30	-B	3		1355	1.16	1.17	2.29		
UPIC	06	1351E	1351D		N01	E10	.178	12427	7.3		-N		P	1351	.21				D
MEND	06	1352E	1410D		N01	E11	.195	12427	7.4	18D	1N		V		4.13				
HUAN	06	1353	1425		N03	E10	.174	12427	7.3	32	-N	2	P	1400	.83	.84			E
CANR	06	1354	1420	1358	N02	E09	.158	12427	7.3	26	-N		V		1.13				
BOUL	06	1355	1413	1402	N03	E09	.156	12427	7.3	18	-F		V	1402	1.10	1.10			
KIEV	06	1355E	1411D	1400	N01	E09	.162	12427	7.3	16D	-F		C	1400	2.06	2.00		60	D
RAMY	06	1356E	1415	1400	N03	E08	.139	12427	7.2	19D	-N	3	C		.46				DE
MCMA	06	1356E	1403D		N02	E09	.158	12427	7.3	7D	-B		P	1358	.62	.60			E
ATHN	06	1357E	1402D	1357U	N01	E08	.145	12427	7.2	5D	-N	2	V		1.32				F
TEHR	06	1406E	1410	1406U	N02	E13	.226	12427	7.6	4D	-N	3	V		.15				F
GRP49114	06	1609	1614	1611	N03	E08	.139	12427	7.3	5	--F				.39				3 3 3 6
HUAN	06	1609	1612		N03	E08	.139	12427	7.3	3	-F	1	P	1611	.41	.42			
RAMY	06	1609E	1614	1610U	N03	E08	.139	12427	7.3	5D	-N	2	C		.46				DE
BOUL	06	1610	1615	1611	N03	E07	.122	12427	7.2	5	-F		V	1611	.30	.30			
115 HUAN	06	1739	1743	1741	N03	E07	.122	12427	7.3	4	--F	1	C	1741	.41	.42			4
GRP49116	06	1910	1920	1916	N02	E07	.124	12427	7.3	10	--F				.25				2 2 2 5
RAMY	06	1910	1920	1915	N02	E07	.124	12427	7.3	10	-F	2	C		.28				DE
PALE	06	1916E	1917D	1917U	N02	E07	.124	12427	7.3	1D	-F	2	V		.21				DE

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	DATE JUL	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP49119	07	0415	0448	0420	S08	W31	.545	12414	4.9	33	-B				.95				3 2 2 3
ATHN	07	0415	0450	0418	S08	W32	.558	12414	4.8	35	-N	3	C		1.16				F
TEHR	07	0416E	0446	0422	S08	W30	.531	12414	4.9	300	-B		V		.74				
MITK	07	0436E	0450	0440	S06	W34	.577	12414	4.6	140	-F		C	0440	.93	1.10			D
GRP49120	07	0515	0537	0518	S06	W26	.464	12414	5.3	22	-N				1.54				2 2 2 3
ATHN	07	0514	0533	0517	S05	W26	.459	12414	5.3	19	-N	4	C		.83				F
ABST	07	0516	0541D	0519	S06	W25	.449	12414	5.3	250	1N		P	0519	2.25	2.50			E
GRP49121	07	0609	0637	0615	N11	W23	.407	12417	5.5	28	--N				.79				4 4 4 7
ABST	07	0609	0643D	0611	N12	W23	.412	12417	5.5	340	-N		P	0611	1.80	2.00			D
CATA	07	0610E	0625D	0615	N11	W23	.407	12417	5.5	150	-N	3		0615	.29	.31	1.70		
ATHN	07	0612E	0631	0612U	N10	W23	.402	12417	5.5	190	-F	4	V		.33				DE
MANI	07	0618E	0624D	0620	N11	W22	.392	12417	5.6	60	-N	1		0620	.72	.78			F
GRP49122	07	0758	0809	0802	N01	E00	.044	12427	7.3	11	--N				.15				3 3 2 8
KHAR	07	0755E	0810D		N01	E00	.044	12427	7.3	150	1F		V	0808			1.20		D
TEHR	07	0800	0808	0802	N01	E01	.047	12427	7.4	8	-N		V		.08				
CANR	07	0800E	0800D		N01	E00	.044	12427	7.3		-N		V	0800	.21	.20			
GRP49124	07	0850	0912	0853	N01	W00	.044	12427	7.4	22	--N				.53				4 3 3 6
ATHN	07	0850E	0910	0852	N01	W01	.047	12427	7.3	200	-N	4	V		.50				DE
CATA	07	0850	0915	0855	N01	W01	.047	12427	7.3	25	-N	3		0855	.87	.87	1.35		
TEHR	07	0853E	0910	0853U	N01	E01	.047	12427	7.4	170	-N	3	V		.21				F
CANR	07	0853E	11130	1113	N01	E00	.044	12427	7.4	1400	-N		V	0853	.41	.40			
4 STATIONS REPORTING GROUP 49125. 2 STATIONS OBSERVING AND NOT REPORTING.																			
GRP49125	07	0948	1011	0951	N01	W01	.047	12427	7.3	23	-N				.99				4 3 3 6
ATHN	07	0947E	1004	0947U	N01	W02	.056	12427	7.3	170	-N	4	V		1.32				DE
TEHR	07	0947E	1005	0947U	N01	E01	.047	12427	7.5	180	-N	3	V		.83				F
CANR	07	0950	0951D	0951	N01	W01	.047	12427	7.3	10	-B		V	0950	.83	.80			
KHAR	07	1000E	1025D		N02	W02	.044	12427	7.3	250	1F		V	1008			1.20		E
125 TEHR	07	1112E	1120	1112U	N01	E01	.047	12427	7.5	80	*-N	3	V		.21				DE 4
GRP49126	07	1128	1148	1130	N12	W26	.456	12417	5.5	20	-N				1.25				4 4 4 7
KHAR	07	1100E	1154		N12	W27	.470	12417	5.4	540	1N		C	1129	2.84	3.20			E
RAMY	07	1125	1144	1126	N12	W27	.470	12417	5.5	19	-F	2	C		.99				F
CATA	07	1130	1145	1130	N12	W27	.470	12417	5.5	15	-B	3		1130	.87	.98	2.04		
CANR	07	1133	1231	1133	N10	W24	.418	12417	5.7	58	-N		V	1133	.31	.30			
GRP49127	07	1230	1302	1236	N01	W03	.068	12427	7.3	32	--N				.71				5 5 5 6
RAMY	07	1229	1258	1234	N02	W03	.058	12427	7.3	29	-N	3	C		.66				DE
CATA	07	1230	1315D	1240	N01	W04	.082	12427	7.2	450	-N	3		1240	.87	.87	1.74		TZ
CANR	07	1231	1240	1234	S00	W02	.070	12427	7.4	9	-N		V	1234	.83	.80			
ATHN	07	1235E	1247D	1237	N01	W04	.082	12427	7.2	120	-N	3	V		.66				DE
MCMA	07	1238E	1330D		N02	W03	.058	12427	7.3	520	-B		P	1238	.52	.50			E
7 STATIONS REPORTING GROUP 49128. 2 STATIONS OBSERVING AND NOT REPORTING.																			
GRP49128	07	1448	1513	1455	N02	W05	.091	12427	7.2	25	-N				1.02				4 4 3 9
ATHN	07	1445E	1505	1445U	N01	W04	.082	12427	7.3	200	-N	3	V		.66				DE
CANR	07	1448	1520	1458	N01	W05	.097	12427	7.2	32	-N		V		1.24				
CATA	07	1450	1605D	1500	N01	W05	.097	12427	7.2	750	-N	3		1500	1.16	1.16	1.95		T
BOUL	07	1457E	1500D	1457E	N03	W04	.070	12427	7.3	30	-N		V	1457		.90			
49128	07	1338	1412	1344	N01	W04	.082	12427	7.3	34	*-N				.64				4 3 3 8
LOCA	07	1334	1405	1338	S01	W05	.117	12427	7.2	31	-N		V	1338	.85	.80			
CATA	07	1340	1420D	1350	N01	W04	.082	12427	7.3	400	-N	3		1350	.58	.58	2.00		T
RAMY	07	1341	1410	1344	N02	W04	.074	12427	7.3	29	-F	3	C		.50				DE
MCMA	07	1404E	1651D		N02	W03	.058	12427	7.4	1670	-N		P	1404	.52	.50			E
128 CANR	07	1535	1556	1540	N01	W05	.097	12427	7.3	21	*-F		V		.62				5
GRP49129	07	1607	1642	1613	N01	W05	.097	12427	7.3	35	-N				1.05				4 4 4 5
CANR	07	1607	1700	1613	N01	W05	.097	12427	7.3	53	-N		V		1.75				
HUAN	07	1607	1634	1613	N01	W04	.082	12427	7.4	27	-N	2	C	1613	.62	.62			E
ATHN	07	1608	1629	1611	N01	W06	.113	12427	7.2	21	-N	2	V		.99				DE
RAMY	07	1610E	1645	1615	N02	W05	.091	12427	7.3	350	-N	4	V		.84				FOE
GRP49130	07	2016	2021	2018	N13	W32	.545	12417	5.4	5	--F				.31				2 2 2 2
HUAN	07	2016	2021	2018	N12	W32	.542	12417	5.4	5	-F	2	C	2018	.26	.31			D
PALE	07	2017E	2020	2018U	N14	W32	.549	12417	5.4	30	-N	2	C		.36				
GRP49132	07	2052	2110	2056	N12	W27	.470	12417	5.6	18	--N				.52				2 2 2 3
HUAN	07	2051	2110	2053	N11	W26	.451	12417	5.9	19	-N	2	C	2053	.67	.75			E
PALE	07	2053	2102D	2056	N12	W28	.485	12417	5.6	90	-N	2	C		.36				
133 HUAN	07	2127	2142	2131	N01	W07	.129	12427	7.4	15	--F	1	C	2131	1.13	1.14			3

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JUL	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
134 PALE	07	2243E	2303	2247U	N02	W08	.141	12427	7.3	200	--F	2	C		.72				3
GRP49135	08	0009	0020	0011	N02	W09	.159	12427	7.3	11	-N				.93				3 3 3 5
MITK	08	0006E	0015	0008	N02	W10	.176	12427	7.3	100	-N		C	0008	1.13	1.20			D
MANI	08	0010E	0025	0013	N02	W09	.159	12427	7.3	150	-N	1		0013	1.03	1.04			F
PALE	08	0010	0020	0013	N02	W09	.159	12427	7.3	10	-N	2	C		.63				DE
136 MITK	08	0126	0138	0129	N14	W31	.534	12417	5.7	12	-B		C	0129	1.55	1.80			E 3
137 MITK	08	0205	0221	0212	N02	W11	.193	12427	7.3	16	-N		C	0212	1.55	1.60			D 3
GRP49138	08	0207	0227	0210	N12	W30	.513	12417	5.8	20	-N				.70				2 2 2 3
TEHR	08	0207E	0227	0207E	N12	W30	.513	12417	5.8	200	-N		V		.67				
PALE	08	0209E	0214D	0212U	N12	W30	.513	12417	5.8	50	-N	2	C		.72				DE
139 MITK	08	0212	0222	0217	S06	W47	.742	12414	4.6	10	1F		C	0217	1.75	2.60			E 3
141 PALE	08	0258E	0300	0258U	N14	W35	.589	12417	5.5	20	--F	2	C		.36				4
GRP49142	08	0310	0331	0318	N02	W11	.193	12427	7.3	21	--N				.91				2 2 2 4
PALE	08	0310E	0331D	0318	N01	W10	.179	12427	7.4	210	-B	2	V		.83				DE
TEHR	08	0313E	0322D	0318U	N02	W12	.209	12427	7.2	90	-F		V		.98				
GRP49143	08	0323	0338	0327	S06	W45	.719	12414	4.8	15	-N				.78				2 2 2 4
PALE	08	0319	0331D	0324	S07	W46	.733	12414	4.7	120	-N	2	V		1.03				DE U
TEHR	08	0327	0338	0330	S05	W43	.692	12414	4.9	11	-N		V		.52				
GRP49144	08	0510	0526	0512	N02	W13	.226	12427	7.2	16	--F				.44				2 2 2 3
TEHR	08	0507	0518D	0509	N02	W13	.226	12427	7.2	110	-N		V		.21				
ATHN	08	0512	0528	0515	N02	W12	.209	12427	7.3	16	-F	3	C		.66				DE
ATHN	08	0513E	0524	0515	S00	W13	.233	12427	7.2	110	-F	4	V		.66				F
6 STATIONS REPORTING GROUP 49145. 1 STATIONS OBSERVING AND NOT REPORTING.																			
GRP49145	08	0653	0722	0655	N02	W13	.226	12427	7.3	29	--F				.87				4 4 4 7
TEHR	08	0650E	0725	0655	N02	W13	.226	12427	7.3	350	-N		V		.52				
ATHN	08	0652	0708	0657	N01	W13	.229	12427	7.3	16	-N	4	C		.66				DE
CANR	08	0653	0655D	0654	N02	W13	.226	12427	7.3	20	-F		V	0655	.31	.30			
BUCA	08	0656	0733		N02	W13	.226	12427	7.3	37	-F		P	0656	1.99	2.00			
49145	08	0653	0740	0720	N02	W13	.226	12427	7.3	47	-N				1.16				2 2 1 8
ISTA	08	0650	0730		N02	W13	.226	12427	7.3	40	-N			0720					
CATA	08	0655	0750	0720	N02	W13	.226	12427	7.3	55	-N	3		0720	1.16	1.19	2.00		
GRP49146	08	0812	0840	0816	N12	W34	.569	12417	5.8	28	-B				1.70				6 6 5 8
ISTA	08	0810	0840		N12	W30	.513	12417	6.1	30	1B			0815					
TEHR	08	0811	0838	0816	N11	W34	.566	12417	5.8	27	-B		V		.99				
ARCE	08	0812E	0832D		N12	W32	.541	12417	5.9	200	1N		C	0813	3.02	3.60			
BUCA	08	0812	0925		N12	W33	.555	12417	5.9	73	-N		C	0820	1.64	1.90			
ATHN	08	0812	0842	0817	N12	W36	.596	12417	5.6	30	-N	4	C		1.32				U F
CANR	08	0812	0814D	0814	N11	W37	.607	12417	5.6	20	-B		V	0814	1.55	1.90			
GRP49149	08	1150	1220	1155	N12	W37	.610	12417	5.7	30	-N				1.30				6 6 5 8
MCMA	08	1145E	1214D		N13	W37	.612	12417	5.7	290	-B		P	1155	.83	1.00			E
RAMY	08	1147	1212	1200	N14	W36	.602	12417	5.8	25	-N	3	C		.99				F
CANR	08	1150	1215	1151	N12	W36	.596	12417	5.8	25	-B		V		1.03	1.20			
ATHN	08	1150E	1217	1155	N10	W37	.605	12417	5.7	270	-N	4	V		1.82				U F
BOUL	08	1154E	1243D	1154E	N12	W37	.610	12417	5.7	490	1N		V	1154		3.00			
TEHR	08	1155	1217	1155	N10	W37	.605	12417	5.7	22	-N	4	V		1.82				U F
GRP49150	08	1517	1554	1519	N11	W39	.634	12417	5.7	37	--N				.46				3 3 3 6
HUAN	08	1517	1554		N11	W38	.621	12417	5.8	37	-N	1	C	1527	.46	.59			ET
ATHN	08	1518E	1554	1519	N10	W38	.619	12417	5.8	360	-N	3	V		.66				F
MCMA	08	1530E	1530D		N13	W40	.651	12417	5.6		-N		P	1530	.26	.40			D
GRP49152	08	1626	1647	1630	S07	W51	.788	12414	4.9	21	--F				.41				4 4 3 6
ATHN	08	1624	1644	1628	S08	W51	.790	12414	4.9	20	-N	3	C		.66				F H
MCMA	08	1625E	1625D		S07	W51	.788	12414	4.9		-F		P	1625	.31	.50			D
HUAN	08	1628	1637	1630	S06	W50	.775	12414	4.9	9	-F	1	C	1630	.26	.41			D
BOUL	08	1631E	1700D	1632U	S07	W51	.788	12414	4.9	290	-N		V	1632		1.40			
154 HUAN	08	1757	1808	1802	N11	W40	.647	12417	5.7	11	--F	1	C	1802	.46	.60			4
GRP49155	08	1819	1835	1825	S06	W53	.807	12414	4.8	16	--F				.42				4 4 3 4
RAMY	08	1818	1846	1825	S05	W54	.817	12414	4.7	28	-F	4	C		.33				DE
HUAN	08	1820	1835	1824	S06	W53	.807	12414	4.8	15	-F	1	C	1824					
MCMA	08	1820E	1830D		S07	W52	.798	12414	4.9	100	-N		P	1830	.41	.70			E
CANR	08	1825E	1838	1825E	S06	W53	.807	12414	4.8	50	-N		V	1825	.52	1.20			

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS					REMARKS
	DATE JUL.	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MONATH PLAGE REGION	CMP DAY					TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ma	MAX. INT. %	
GRP49156	08	1844	1858	1848	N12	W40	.649	12417	5.8	14	--F				.64				2 2 2 4
HUAN	08	1544	1852	1846	N11	W40	.647	12417	5.8	8	-N	1	C	1846	.62	.80			
RAMY	08	1845E	1903D	1850	N12	W40	.649	12417	5.8	18D	-F	4	V		.66				DE
GRP49157	08	1906	1928	1911	N10	W40	.645	12417	5.8	22	--N				.69				3 3 3 4
HUAN	08	1905	1915	1913	N09	W40	.644	12417	5.8	10	-F	1	C	1913	.31	.39			D
RAMY	08	1307	1935D	1909	N10	W39	.632	12417	5.9	28D	-N	4	V		.52				DE
PALE	08	1911E	1935	1911U	N10	W41	.658	12417	5.7	24D	-N	3	V		1.24				DE
158 HUAN	08	1937	1940	1937	N11	W42	.673	12417	5.7	3	--F	2	C	1937	.41	.54			3
GRP49159	08	2004	2018	2007	N11	W40	.647	12417	5.8	14	-B				.99				2 2 2 3
PALE	08	2002	2028	2006	N12	W41	.662	12417	5.8	18	-B	3	C		1.35				DE U
PALE	08	2003E	2018	2006	N10	W42	.671	12417	5.7	15D	-B	3	V		1.13				DE U
HUAN	08	2004	2017	2007	N11	W39	.634	12417	5.9	13	-N	2	C	2007	.62	.79			
166 HUAN	08	2050	2118	2059	N11	W43	.685	12417	5.6	20	--N	1	C	2059	.41	.56			3
	08	2211	2230	NO FLARE PATROL															
	08	2334	2351	NO FLARE PATROL															
	08	2352	0005	NO FLARE PATROL															
	09	0016	0019	NO FLARE PATROL															
	09	0107	0114	NO FLARE PATROL															
GRP49161	09	0356	0404	0400	N13	W47	.735	12417	5.6	8	--F				.46				2 2 2 5
MANI	09	0355E	0404D	0359U	N13	W46	.724	12417	5.7	9D	-N	1		0359	.41	.61			E
ATHN	09	0357	0401D	0400U	N12	W47	.734	12417	5.6	4D	-F	1	C		.50				DE
6 STATIONS REPORTING GROUP 49162. 1 STATIONS OBSERVING AND NOT REPORTING.																			
GRP49162	09	0505	0549	0527	N11	W45	.709	12417	5.8	44	-N				1.91				3 3 3 5
ATHN	09	0505	0542	0526	N12	W46	.722	12417	5.8	37	-B	4	V		1.49				U F
ATHN	09	0505	0542	0512	N12	W46	.722	12417	5.8	37	-N	4	V		1.49				U F
TEHR	09	0515E	0545D	0527	N11	W44	.697	12417	5.9	30D	-N		V		1.55				
CULG	09	0529E	0600D	0529	N11	W46	.721	12417	5.8	31D	1N		P	0529	2.68	3.60			
49162	09	0502	0650	0556	N11	W49	.756	12417	5.5	108	*1N				3.15				3 1 1 7
ABST	09	0502	0650D	0556	N11	W49	.756	12417	5.5	108D	1N		P	0556	3.15	4.80			DJH
CATA	09	0505E	0650D	0610	N13	W48	.747	12417	5.7	45D	1B	3		0610	1.73	2.61	2.29		
ISTA	09	0630E	0642D		N10	W48	.743	12417	5.7	12D	-F								
GRP49166	09	1624	1640	1629	N11	W55	.819	12417	5.6	16	-N				.56				6 5 4 7
RAMY	09	1622	1640	1628	N12	W55	.819	12417	5.6	18	-N	4	C		.65				DE
MCMA	09	1624	1649	1628	N12	W57	.838	12417	5.4	25	-N		C	1628	.62	1.20			E
MEUD	09	1624	1630D		N11	W55	.819	12417	5.6	6D	-F		C						
HUAN	09	1625	1635	1627	N09	W57	.837	12417	5.4	10	-F	1	C	1627	.46	.79			
ATHN	09	1627E	1638	1629	N12	W53	.799	12417	5.7	11D	-N	2	V		.50				DE
BOUL	09	1635E	1640D	1635E	N09	W56	.828	12417	5.5	5D	-N		V	1635	.40	.70			
HUAN	09	1638	1643	1641	N11	W58	.847	12417	5.3	11	-F	2	C	1641					
167 HUAN	09	2049	2054	2051	N11	W58	.847	12417	5.5	5	--F	1	C	2051	.41	.72			3
168 PALE	09	2141E	2143D		N13	W56	.830	12417	5.7	2D	--F	1	C						F 2
	09	2144	2214	NO FLARE PATROL															
4 STATIONS REPORTING GROUP 49170. 0 STATIONS OBSERVING AND NOT REPORTING.																			
GRP49170	10	0218	0229	0220	N12	W60	.865	12417	5.6	11	-N				.75				4 4 4 4
PALE	10	0216E	0228	0222	N12	W60	.865	12417	5.6	12D	-N	2	C		.72				F
CULG	10	0217	0340	0221	N12	W60	.865	12417	5.6	83	1N		C	0221	1.03	2.00			K
MANI	10	0218E	0235	0218U	N13	W58	.848	12417	5.7	17D	-N	1		0218	.93	1.63			F
CRON	10	0219	0223	0220	N12	W61	.873	12417	5.5	4	-N		V	0220	.31				
49170	10	0217	0338	0329	N13	W59	.857	12417	5.7	81	*-N				.88				2 2 2 3
CULG	10	0217	0340	0327	N12	W60	.865	12417	5.6	83	1N		C	0327	1.03	2.00			
CRON	10	0325E	0336	0331	N14	W58	.849	12417	5.8	11D	-N		V	0331	.72				
GRP49172	10	0548	0557	0549	N14	W60	.866	12417	5.7	9	--F				.78				4 4 4 7
ATHN	10	0542E	0557	0543	N10	W60	.864	12417	5.7	15D	-F	3	V		.50				F
CRON	10	0550E	0554	0550E	N14	W59	.857	12417	5.8	4D	-N		V	0550	.41				
ABST	10	0550E	0600D	0551	N14	W60	.866	12417	5.7	10D	1F		C	0551	1.80	3.70			EMZ
UPIC	10	0551	0556	0551	N18	W60	.869	12417	5.7	5	-F		P	0551	.42				

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OBSERVATORY	DATE JUL	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	COND.	OBS. TYPE	MEASUREMENTS TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Mo	MAX. INT. %	REMARKS
GRP49173	10	0702	0718	0705	N11	W63	.889	12417	5.6	16	-N				.88				6 6 5 8
CKON	10	0700	0709	0703	N10	W62	.881	12417	5.6	8	-N		V	0704	.62				
ABST	10	0700	0730	0703	N12	W64	.897	12417	5.5	30	1N		C	0703	1.80	4.10			E
ISTA	10	0702	0710		N10	W64	.897	12417	5.5	8	-N								
ATHN	10	0705E	0717	0707	N10	W61	.873	12417	5.7	12D	-N	4	V		.66				F
CATA	10	0705	0725	0705	N10	W60	.864	12417	5.8	20	-N	3		0705	.46	.92	2.00		
UPIO	10	0709E	0717		N13	W65	.905	12417	5.4	8D	-N		P	0709	.65				F
GRP49176	10	1355	1409	1357	N12	W66	.912	12417	5.6	14	--F				1.03				5 5 4 7
RAMY	10	1354	1415	1356	N12	W65	.905	12417	5.7	21	-F	4	C		.74				DE
HUAN	10	1354	1407	1357	N11	W64	.897	12417	5.8	13	-N	2	C	1357	.67	1.47			
KIEV	10	1355E	1402D	1358	N13	W66	.912	12417	5.6	7D	-F		C	1358	2.06			60	DI
MEUD	10	1356	1406	1357	N11	W68	.925	12417	5.5	10	-F		C						
UPIO	10	1357E	1408	1359U	N11	W66	.912	12417	5.6	11D	-F		P	1359	.63				
GRP49177	10	1603	1621	1610	N08	W67	.919	12417	5.6	18	--F				.40				3 3 3 8
RAMY	10	1603	1623	1615	N10	W68	.925	12417	5.6	20	-F	4	C		.28				DE
BOUL	10	1607E	1620D	1607E	N07	W69	.932	12417	5.5	13D	-F		V	1610	.60	1.60			
ATHN	10	1607E	1619	1608	N08	W65	.904	12417	5.8	12D	-F	1	V		.33				DE
178 RAMY	10	2125	2150D	2130U	N12	W71	.943	12417	5.6	25D	--F	2	V		.33				DE 2
179 PALE	10	2231	2240	2234U	N16	W68	.926	12417	5.8	9	--F	2	C		.27				F 3
180 PALE	10	2244E	2257	2245U	N11	W70	.938	12417	5.7	13D	--F	2	C		.27				F 3
184 PALE	11	1337E	1955	1941U	N07	W80	.984	12417	5.8	18D	--F	3	V		.21				2
	12	2046	2100	NO FLARE PATROL															
	14	2138	2231	NO FLARE PATROL															
	15	0030	0055	NO FLARE PATROL															
190 TEHR	16	0252E	0310D	0254U	S10	W58	.862	12441	11.8	18D	--F	3	V		.52				F 3
GRP49191	16	0533	0541	0537	S11	W58	.864	12441	11.9	8	--F				.62				2 2 2 4
ABST	16	0531E	0539D	0537	S10	W58	.862	12441	11.9	8D	-N		P	0537	.90	1.80			D
ATHN	16	0534	0541	0536	S12	W58	.866	12441	11.9	7	-F	2	C		.33				DE
GRP49192	16	0632	0640	0636	S12	W59	.874	12441	11.8	8	--F				.50				2 2 1 4
ISTA	16	0531	0640		S11	W60	.880	12441	11.8	9	-F								
ATHN	16	0632	0640	0636	S12	W58	.866	12441	11.9	8	-N	3	C		.50				DE
GRP49197	16	1256	1322	1259	S11	W60	.880	12441	12.0	26	--F				.27				2 2 2 5
ATHN	16	1256E	1325	1256U	S12	W61	.890	12441	12.0	29D	-F	3	V		.33				DE
TEHR	16	1302E	1318	1302U	S10	W58	.862	12441	12.2	16D	-F	3	V		.21				DE
	17	0139	0154	NO FLARE PATROL															
204 PALE	17	2135	2144	2139	N16	W50	.770	12431	14.1	9	--F	2	C		.45				F 2
	18	0108	0110	NO FLARE PATROL															
	18	0112	0115	NO FLARE PATROL															
GRP49205	18	0217	0303	0242	N14	W46	.723	12431	14.6	46	-N				1.05				3 3 3 3
TEHR	18	0217E	0311D	0240	N15	W46	.724	12431	14.6	54D	-8	3	C		.52				F
PALE	18	0240E	0251D	0244U	N15	W44	.701	12431	14.9	11D	-N	2	C		1.08				F
MANI	18	0241E	0255	0241U	N13	W47	.733	12431	14.6	14D	1N	2		0241	1.55	2.28			E
GRP49206	18	0300	0312	0301	N13	W46	.721	12431	14.7	12	--N				.28				2 2 2 3
TEHR	18	0300E	0309	0300U	N13	W45	.709	12431	14.8	9D	-N	3	V		.15				DE
MANI	18	0301E	0315	0302	N13	W47	.733	12431	14.6	14D	-N	2		0302	.41	.61			F
GRP49207	18	0410	0423	0413	N14	W46	.723	12431	14.7	13	--N				.37				3 3 3 5
MANI	18	0408	0425	0414	N13	W48	.744	12431	14.6	17	-N	2		0414	.41	.62			
PALE	18	0411	0417	0413	N15	W44	.701	12431	14.9	6	-F	2	C		.36				
ATHN	18	0413E	0427	0413U	N13	W47	.733	12431	14.7	14D	-N	2	V		.33				DE
GRP49212	18	0540	0655	0646	N13	W47	.733	12431	14.8	15	--F				.43				4 4 4 8
ABST	18	0539	0653	0643	N15	W47	.736	12431	14.8	14	-F		C	0643	.90	1.30		630	D
TEHR	18	0540	0652	0645	N13	W45	.709	12431	14.9	12	-N	3	C		.08				DE
ATHN	18	0643E	0656	0644	N13	W48	.744	12431	14.7	13D	-N	3	V		.33				DE
MANI	18	0546E	0658	0651U	N12	W47	.732	12431	14.8	12D	-F	2		0651	.41	.62			
215 RAMY	18	1551	1603	1555	S12	E31	.574	12442	21.0	12	--F	3	C		.37				DE 4
216 PALE	18	1833	1842	1836	S17	E54	.844	12444	22.8	9	--F	3	C		.27				DE 3

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JUL	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
217 PALE	18	1952	1957	1953	S06	E25	.456	12442	20.7	5	--F	3	C		.19				1
218 ABST	19	0518	0536	0521	N14	W62	.881	12431	14.6	18	--F		C	0521	.90	1.80		608	D 3
	19	2028	2043	NO FLARE PATROL															
	19	2150	2203	NO FLARE PATROL															
222 PALE	19	2303E	2310D	2305	S06	W28	.499	12448	17.9	7D	--F	2	C		.45				F 2
GRP49223	20	0026	0042	0032	N17	E24	.446	12449	21.8	16	--F				.57				2 2 2 3
PALE	20	0026	0042	0035	N17	E23	.433	12449	21.7	16	-F	2	C		.72				F
MANI	20	0029E	0038D	0029U	N17	E24	.446	12449	21.8	9D	-F	1		0029	.41	.46			F
228 HUAN	20	1750	1755	1753	N13	W83	.991	12431	14.5	5	--F	1	C	1753	.21				D 3
229 CANR	20	1830	1840	1836	N14	W87	.997	12431	14.2	10	--F		V						2
233 HUAN	21	2028	2030D		S02	W52	.792	12448	18.0	2D	--F	1	P	2030					2
	21	2030	2039	NO FLARE PATROL															
	21	2053	2153	NO FLARE PATROL															
	23	2019	2042	NO FLARE PATROL															
	23	2055	2107	NO FLARE PATROL															
	23	2154	2229	NO FLARE PATROL															
	23	2231	2250	NO FLARE PATROL															
	24	0028	0033	NO FLARE PATROL															
243 CATA	24	0910	0950	0930	S03	W90	1.000	12448	17.6	40	2F	3		0930	2.90		1.26		4
244 PALE	25	2016E	2018D	2016U	N08	W14	.245	12451	24.8	2D	--F	3	C		.27				DE 2
	25	2058	2129	NO FLARE PATROL															
	25	2137	2138	NO FLARE PATROL															
	25	2220	2223	NO FLARE PATROL															
GRP49247	26	0147	0204	0151	S13	E89	1.000	12460	1.7	17	-F				.52				2 2 2 5
MANI	26	0146	0208	0150	S12	E88	1.000	12460	2.7	22	-N	2		0150	.52	1.64			X
MITK	26	0148	0200	0152	S13	E90	1.000	12460	2.8	12	1F		C	0152	.52				D
GRP49249	26	0506	0519	0508	N13	E90	1.000	12461	2.0	13	1F				.71				2 2 2 6
ABST	26	0505	0522	0507	N13	E89	.999	12461	2.9	17	1F		C	0507	.90				AOG
MITK	26	0507	0516	0508	N13	E90	1.000	12461	3.0	9	1F		C	0508	.52				DM
GRP49251	26	1350	1416	1352	N09	W25	.424	12451	24.7	26	--N				.40				3 2 2 6
ATHN	26	1344	1417	1349	N09	W24	.408	12451	24.8	33	-N	2	C		.50				DE
CATA	26	1355	1415	1355	N08	W25	.422	12451	24.7	20	-N	3		1355	.29	.32	1.62		
BOUL	26	1355E	1410D	1404	N07	W25	.421	12451	24.7	15D	-F		V	1404		.40			
	26	1917	1925	NO FLARE PATROL															
	26	1949	1955	NO FLARE PATROL															
	26	2032	2034	NO FLARE PATROL															
	26	2053	2115	NO FLARE PATROL															
	26	2124	2139	NO FLARE PATROL															
	26	2153	2210	NO FLARE PATROL															
	26	2215	2222	NO FLARE PATROL															
GRP49258	27	0954	1008	0957	N11	E68	.923	12461	1.5	14	-N				.51				5 5 5 6
MONT	27	0951	1013	0956	N13	E70	.936	12461	2.7	22	-N		C	0956	.21				
ATHN	27	0953	1005	0956	N10	E68	.924	12461	2.5	12	-N	4	C		.66				DE
CANR	27	0955	1009	0958	N12	E68	.923	12461	2.5	14	-N		V	0958	.72	1.70			
TEHR	27	0955	1005	0958	N12	E68	.923	12461	2.5	10	-N	3	C		.36				DE
CATA	27	0955	1010	0955	N08	E68	.924	12461	2.5	15	-N	3		0955	.58		1.62		
	27	2113	2120	NO FLARE PATROL															

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OBSERV-ATORY	OBSERVED UT				LOCATION						DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JUL	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY		MIN.		CONO.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Ha	MAX. INT. %	
	27	2131	2134	NO FLARE PATROL																
261 MITK	28	0150	0202	0155	N27	E79	.977	12471	4.0		12	-N		C	0155	.52				DG 4
	28	2031	2104	NO FLARE PATROL																
264 PALE	28	2124E	2130D		S05	E33	.567	12460	1.4		6D	--F	1	C						F 2
GRP49265	29	0208	0223	0208	S05	E30	.526	12460	31.3		15	--N				.45				1 1 1 3
PALE	29	0208E	0222	0208U	S05	E29	.512	12460	1.3		14D	-N	2	C		.45				F H
PALE	29	0212E	0223	0213U	S06	E31	.545	12460	1.4		11D	-N	2	V		.26				DE
266 PALE	29	0241	0252	0245	S05	E29	.512	12460	1.3		11	--N	2	C		.63				F 4
GRP49267	29	0402	0431	0410	S03	E28	.488	12460	31.3		29	-N				1.18				3 3 3 5
PALE	29	0402	0441	0410	S05	E28	.498	12460	1.3		39	-N	2	C		.99				UDE
ATHN	29	0408E	0422	0410	S03	E30	.517	12460	1.4		14D	-N	2	V		.83				DE
TEHR	29	0408E	0430	0410	S02	E27	.469	12460	1.2		22D	-B	4	C		1.73				F
GRP49270	29	0713	0747	0723	S06	E30	.531	12460	31.6		34	--N				.43				4 4 3 5
ISTA	29	0710	0735		S05	E32	.554	12460	1.7		25	-F								
CATA	29	0710	0825	0725	S10	E30	.555	12460	1.5		75	-N	3		0725	.29	.34	1.70		
BUCA	29	0719	0747		S06	E31	.545	12460	1.6		28	-N		C	0721	.66	.70			E
ATHN	29	0720E	0730	0720U	S05	E28	.498	12460	1.4		10D	-N	3	V		.33				DE
CATA	29	0805	0815	0805	S07	E26	.482	12460	1.3		10	-F	3		0805	.29	.33	1.23		
11 STATIONS REPORTING GROUP 49272. 0 STATIONS OBSERVING AND NOT REPORTING.																				
GRP49272	29	1313	1519	1329	N14	E45	.708	12461	1.9		126	3B				13.81				7 7 7 9
TEHR	29	1310	1517D	1328	N13	E50	.764	12461	3.3		127D	2B	3	V		4.95				S U
BOUL	29	1312E	0125D	1328	N13	E45	.707	12461	2.9		733D	4N		V	1328	24.00	33.60			
MCMA	29	1312	1900D	1329	N12	E43	.681	12461	2.8		348D	3N		C	1329	15.47	21.30			FGHLSU
RAMY	29	1313	1700D	1327	N14	E45	.708	12461	2.9		227D	3B	4	C		15.71				U F
CATA	29	1315	1422D	1331	N13	E44	.695	12461	2.9		67D	3B	3		1331	16.81	23.35	3.24		
CANR	29	1315	1515	1331	N15	E45	.709	12461	2.9		120	3N		V	1331	14.44	20.00			
CANR	29	1315	1515	1325	N15	E45	.709	12461	2.9		120	3N		V	1325	10.31	15.00			
ATHN	29	1332E	1525	1332U	N15	E45	.709	12461	2.9		113D	2B	1	V		5.28				U F
49272	29	1315	1817	1341	N14	E44	.696	12461	1.9		302	*3B				11.76				2 2 2 8
HUAN	29	1315	1817	1344	N15	E44	.698	12461	2.9		302	3N	2	C	1344	10.11	14.12			GSU
KIEV	29	1320E	1406D	1337	N13	E43	.682	12461	2.8		46D	3B		P	1337	13.41	19.00		80	EI
49272	29	1441	1715	(1441)	N14	E43	.684	12461	1.8		154	*3B				12.20				2 1 1 8
UPIC	29	1441E	1715D		N14	E43	.684	12461	2.8		154D	3B		P	1441	12.20				U
LOCA	29	1530E	1630D		N13	E46	.719	12461	3.1		60D	2N		S	1530	6.30	9.50			GS
274 PALE	29	2109	2125	2116	S07	E21	.413	12460	1.5		16	--F	2	C		.63				F 3
GRP49280	30	2322	2338	2326	S06	E08	.244	12460	31.6		16	--F				.52				2 2 2 4
PALE	30	2322E	2338	2326U	S07	E08	.258	12460	1.6		16D	-F	3	V		.52				F
MITK	30	2325E	2338		S04	E07	.206	12460	1.5		13D	-F		C	2327	.52	.50			D
GRP49281	31	0437	0459	0443	S06	E04	.214	12460	31.5		22	--F				.29				2 2 2 4
TEHR	31	0435	0458	0439	S06	E04	.214	12460	1.5		23	-F	4	C		.26				F R
MANI	31	0439	0500	0447	S05	E04	.198	12460	1.5		21	-F	2		0447	.31	.32			
	31	1915	2027	NO FLARE PATROL																

In the importance column "--" signifies the subflare has been confirmed by the NOAA grouping program but is not included in the I.A.U. Quarterly Bulletin on Solar Activity. These subflares are also not included in the Flare Index below.

DAILY FLARE INDICES

Date	Flare Index	HR OBS	Date	Flare Index	HR OBS	Date	Flare Index	HR OBS
730701	1.22	24.0	730710	7.06	24.0	730723	3.00	22.5
730702	3.28	22.7	730712	9.00	23.8	730724	44.39	23.9
730703	0.00	23.0	730714	3.00	23.1	730725	3.36	23.4
730704	18.85	24.0	730716	3.00	23.6	730726	4.13	22.7
730706	14.34	24.0	730717	3.00	23.8	730727	1.37	23.8
730707	42.31	24.0	730718	5.32	23.9	730728	1.45	23.5
730708	32.32	23.2	730719	3.36	23.5	730729	1013.91	24.0
730709	20.91	23.3	730721	3.00	22.9	730731	0.00	22.8

When no Flare Index is given, it is 0 for that day.

SOLAR FLARES
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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE JUL.	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	NOAA/PTHA PLAGE REGION	CMP DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH HG	MAX. INT. %	
054 TEHR	01	0405E	0415D	0410U	N12	E59	.858	12417	5.6	100	-F	3	V		.62				F 6
056 KHAR	01	0330E	1010D		N11	E57	.839	12417	5.7	400	1F		P	0945	1.34	2.90	1.20		7
057 MEUD	01	1311	1325	1315	S11	W73	.961	12402	27.1	14	-F		C						7
058 ATHN	01	1603	1611	1605	S08	E42	.685	12414	4.8	8	-F	3	C		.33				DE 7
059 MCMA	01	1839E	1846D		N14	E52	.793	12417	5.7	76	-N		P	1839	.26	.40			D 4
060 BOUL	01	2043	2107	2048	N10	E90	1.000	12420	8.6	24	-F		V						3
062 MEUD	02	0642	0710	0701	N13	E48	.749	12417	5.9	28	-F		C						9
063 MONT	02	0734	0751	0736	N13	E47	.738	12417	5.8	17	-F		C	0736	.10				9
064 ISTA	02	0735	0746		N13	E17	.335	12422	3.6	11	-F								9
GRP49065	02	1229	1550	1530	S06	E36	.603	12414	5.2	201	-F				.69				2 1 1 8
ARCE	02	1229E	1550D	1538	S06	E36	.603	12414	5.2	2010	-F		C	1538	.69	.90			
LOCA	02	1550E	1605	1550	S06	E36	.603	12414	5.4	150	-N		V	1550	.63	.80			
069 BOUL	03	0146	0154	0150	S06	E31	.534	12414	5.4	8	-F		V		.40	.50			3
070 ATHN	03	0414E	0432	0414U	S07	E30	.524	12414	5.4	180	-N	3	V		.33				DE 5
071 ATHN	03	0627E	0642	0629	N10	E32	.537	12417	5.7	150	-N	4	V		.33				DE 7
073 RAMY	03	1106	1124	1110	S08	E20	.388	12414	5.0	18	-F	4	C		.37				DE 6
074 RAMY	03	1350	1404	1353	N13	E30	.519	12417	5.8	14	-F	4	C		.28				DE 7
077 MANI	04	0005E	0015	0007	N11	E20	.364	12417	5.5	100	-N	1		0007	.21	.22			5
080 ATHN	04	1153	1207	1154	N12	E17	.326	12417	5.8	14	-F	3	C		.33				DE 6
082 UPIC	04	1509	1609	1529U	N16	E13	.311	12417	5.6	60	-F		P	1529	.21				K 4
083 UPIC	04	1529	1609	1529U	S06	E09	.222	12414	5.3	40	-F		P	1529	.42				K 4
084 UPIC	04	1603E	1609		N12	E16	.311	12417	5.9	60	-F		P	1603	.42				E 4
094 ATHN	05	0510	0531	0513	S09	E02	.215	12414	5.4	21	-N	3	C		.33				DE 6
GRP49095	05	0640	0658	0646	N16	E05	.236	12417	5.7	18	-F				.25				2 2 2 5
CATA	05	0640	0655	0645	N16	E05	.236	12417	5.7	15	-F	3		0645	.29	.29	1.29		
MANI	05	0645E	0700	0647U	N15	E05	.220	12417	5.7	150	-F	1		0647	.21	.21			H
096 ATHN	05	0832	0844D	0834	N12	E04	.166	12417	5.7	120	-F	3	C		.33				DE 7
097 RAMY	05	1344	1403	1350	N16	E06	.242	12417	6.0	19	-F	3	C		.28				DE 7
103 ABST	06	0619	0650	0620	N01	E16	.278	12427	7.5	31	-N		C	0620	.90	.90			D 9
104 ATHN	06	0632	0652	0635	S06	W11	.250	12414	5.4	20	-F	2	C		.66				DE 8
GRP49105	06	0703	0740	0714	N01	E15	.262	12427	7.4	37	-F				.37				2 2 2 9
CATA	06	0700	0740D	0710	S00	E15	.265	12427	7.4	400	-F	3		0710	.29	.30	1.45		
ABST	06	0705	0740	0717	N02	E14	.243	12427	7.3	35	-N		C	0717	.45	.50			D
107 MONT	06	0803	0835	0808	N02	E13	.226	12427	7.3	32	-F		C	0808	.10				12
108 MONT	06	0838	0848	0840	N02	E13	.226	12427	7.3	10	-F		C	0840	.10				9
GRP49109	06	0905	0950	0915	N02	E12	.209	12427	7.3	45	-F				.66				2 2 1 10
KHAR	06	0905E	0950D		N02	E12	.209	12427	7.3	450	-F		V	0905			1.20		DH
ATHN	06	0914E	0916D	0915	N01	E11	.195	12427	7.2	20	-N	4	V		.66				F
110 ARCE	06	0940E	1007D		N01	W12	.212	12414	5.5	270	-N		C	0955	.46	.50			7
111 KHAR	06	0953E	1027D		N02	E12	.209	12427	7.3	340	-F		C	0957	.91	.90			D 7
117 HUAN	06	1925	1933	1927	N01	E06	.112	12427	7.3	8	-F	1	C	1927	.41	.42			5
118 MANI	07	0004E	0017	0004U	N13	W13	.275	12417	6.0	130	-F	1		0004	.41	.43			F 4
123 MANI	07	0819E	0824D	0821	N02	E01	.031	12427	7.4	50	-N	1		0821	.52	.52			7
131 HUAN	07	2027	2034	2030	N12	W33	.556	12417	5.4	7	-F	2	C	2030	.21	.25			D 4

SOLAR FLARES
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OBSERVATORY	DATE JUL	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION MCMATH PLAGE REGION	LOCATION CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hg	MEASUREMENTS MAX. INT. %	REMARKS
140 PALE	08	0246E	0300	0248U	N12	W33	.555	12417	5.6	140	-F	2	V		.31				H F 4
147 CATA	08	0950	1000	0950	N16	W40	.659	12417	5.4	10	-F	3		0950	.29	.38	1.45		7
148 ATHN	08	1105E	1112	1105U	N12	W41	.662	12417	5.4	70	-F	4	V		.83				F 6
151 RAMY	08	1541	1558	1547	S06	W44	.707	12414	5.4	17	-F	4	C		.50				DE 5
153 HUAN	08	1701	1714	1704	N11	W40	.647	12417	5.7	13	-N	2	C	1704	.46	.61			5
163 ISTA	09	0757	0827		N12	W47	.734	12417	5.8	30	-F								8
GRP49164	09	1200	1205	1201	N12	W47	.734	12417	6.0	5	-F				1.06				2 2 2 10
HUAN	09	1200	1205	1201	N11	W47	.733	12417	6.0	5	-F	1	C	1201	.41	.60			
KHAR	09	1200	1200D		N12	W47	.734	12417	6.0		1N		P	1200	1.70	2.60			
165 MCMA	09	1206E	1351D		N13	W53	.800	12417	5.5	1030	-N		P	1228	.52	.90			E 8
169 PALE	10	0133	0142	0134	N02	W37	.602	12427	7.3	9	-F	2	C		.27				5
171 ATHN	10	0510E	0518	0512	N11	W60	.865	12417	5.7	80	-N	3	V		.33				DE 5
GRP49174	10	0735	0800	0735	N10	W61	.873	12417	5.7	25	-N				1.14				·2 2 2 9
TEHR	10	0735E	0810	0735E	N12	W58	.847	12417	6.0	350	1B		V		1.86				
UPIC	10	0741E	0750		N08	W64	.897	12417	5.5	90	-F		P	0741	.42				F
175 MEUD	10	0925	0945D		N03	W42	.668	12427	7.2	200	-F		C						7
181 ATHN	11	0635E	0648	0636	N10	W73	.954	12417	5.8	130	-N	4	V		.50				DE 5
182 ATHN	11	0932E	0939	0934	S00	W54	.810	12427	7.3	70	-N	4	V		.33				DE 10
183 BOUL	11	1824E	1840D	1827	N07	W80	.984	12417	5.8	160	-F		V	1830	.40	1.30			6
185 ISTA	12	0630E	0645		N15	W90	1.000	12417	5.5	150	-F								3
186 RAMY	12	1436	1448		N13	W90	1.000	12417	5.9	12	-F	3	C						4
187 TEHR	13	0351E	0411	0353	S20	W02	.410	12428	13.0	200	-N	4	V		.33				DE S 5
188 KHAR	13	1105E	1137D		S11	W21	.435	12441	11.9	320	-F		P	1122	.91	1.00	1.20		D 8
189 TEHR	14	0439E	0447	0441	S13	W40	.686	12425	11.2	80	-F		V		.17				7
193 MONT	15	0702E	0734	0725	S11	W60	.880	12441	11.8	320	-F		C	0725	.10				H 6
194 TEHR	15	0930E	0945	0930U	S10	W58	.862	12441	12.0	150	-F	3	V		.31				DE 6
195 MONT	15	1019	1041	1028	S18	E90	1.000	12444	23.2	22	-N		C	1028	.21				5
196 CANR	15	1242E	1242D	1242E	S13	W67	.932	12425	11.5		-F		V	1242	.41	.90			4
198 CANR	15	1800E	1830		S05	E19	.361	12448	18.2	330	-F		V	1800	1.03	1.00			6
GRP49199	17	0508	0552	0527	S13	W73	.964	12441	11.7	44	-N				.76				2 2 2 7
ABST	17	0508	0552D	0522	S13	W72	.959	12441	11.8	440	1N		P	0522	1.35				OK
TEHR	17	0525E	0533D	0531	S12	W73	.963	12441	11.8	80	-N	2	C		.17				
200 MANI	17	0745	0758	0746	S11	W73	.963	12441	11.8	13	-N	2		0746	.31	.73			9
201 MONT	17	0831	0844	0835	S13	W74	.968	12441	11.8	13	-F		C	0835	.10				9
202 TEHR	17	1050	1213	1100	N13	W36	.595	12431	14.8	83	-N	3	C		.12				F 7
GRP49203	17	1234	1308	1244	N19	E58	.851	12449	21.9	34	-N				.15				2 2 2 8
TEHR	17	1228	1313	1243	N17	E58	.849	12449	21.9	51	-N	3	C		.08				F
CANR	17	1240	1256	1244	N20	E57	.844	12449	21.8	16	-N		V	1244	.21	.30			
208 ABST	18	0524E	0536D	0529	S12	W44	.729	12445	14.9	120	-F		P	0529	.81	1.20		664	D 5
209 ABST	18	0533	0537	0534	N16	W46	.726	12431	14.8	4	-F		C	0534	.90	1.30		620	D 5
210 ABST	18	0606	0658	0616	N17	E47	.739	12449	21.8	52	-F		C	0616	1.17	1.70		620	D 6
211 MANI	18	0624	0637	0626	S10	W45	.733	12445	14.9	13	-N	2		0626	.31	.46			7
GRP49213	18	0729	0740	0731	N13	W49	.755	12431	14.6	11	-F				.32				2 2 2 9
CANR	18	0729	0734	0730	N13	W49	.755	12431	14.6	5	-N		V	0730	.31	.45			
ATHN	18	0730E	0746	0731	N13	W48	.744	12431	14.7	160	-F	3	V		.33				DE

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS					REMARKS
	DATE JUL.	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	MIN.				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg.	MAX. INT. %	
214 TEHR	18	1030E	1037D	1033U	S12	W90	1.000	12441	11.7	7D	-B	4	V		.21				R 6
219 TEHR	19	0821E	0855D	0838U	S13	W58	.868	12445	15.0	34D	-N	2	C		.33				F 5
220 PALE	19	1644E	1648	1644U	S22	W48	.809	12437	16.1	4D	-F	1	C		.27				6
221 PALE	19	1807	1822	1809	S14	W65	.921	12445	14.9	15	-N	3	V		.21				OE 3
224 ABST	20	1133E	1138D	1138	S06	W38	.635	12448	17.6	5D	-F		P	1138	.72	.90			D 6
225 CATA	20	1425	1435	1425	S07	W37	.626	12448	17.8	10	-F	1		1425	1.16	1.48	1.45		4
226 CATA	20	1525	1600D	1530	S09	W75	.970	12445	15.0	35D	-F	3		1530	.58		1.32		4
227 CANR	20	1712	1722	1715	N14	W86	.996	12431	14.3	10	-F		V		.41				5
230 ABST	21	0500E	0522D	0504	N15	W88	.998	12431	14.6	22D	1N		P	0504	.99				AD 6
231 ISTA	21	0814	0835		S05	W90	1.000	12433	14.6	21	-F								8
232 MONT	21	1021	1031	1027	S07	W48	.759	12448	17.8	10	-F		C	1027	.10				4
234 ATHN	22	0449	0453	0450	N08	W17	.295	12449	20.3	4	-N	3	V		.33				OE 4
235 ABST	22	0604	0622	0612	S06	W62	.893	12448	17.6	18	-F		C	0612	.90	2.00			D 7
GRP49236	22	0635	0655	0641	N17	W08	.248	12449	21.7	20	-F				.74				2 2 2 7
CATA	22	0635	0655	0640	N17	W08	.248	12449	21.7	20	-F	3		0640	.58	.59	1.41		
ABST	22	0638E	0654D	0641	N17	W08	.248	12449	21.7	16D	-F		P	0641	.90	.90			E
237 CATA	22	0850	0915	0850	S01	W58	.850	12448	18.0	25	-F	3		0850	.29	.55	1.35		6
238 MONT	23	1125	1129	1127	S07	W78	.981	12448	17.6	4	-F		C	1127	.10				6
239 BOUL	23	2005E	2040	2005E	N16	W30	.521	12449	21.6	35D	-F		V						3
240 ATHN	24	0519E	0530	0519U	S08	W43	.705	12442	21.0	11D	-F	3	V		.33				OE 3
241 ABST	24	0658E	0720D	0702	N09	E10	.185	12451	25.0	22D	-F		P	0702	.90	.90			D 8
242 ABST	24	0658E	0743D	0713	S14	W40	.695	12442	21.3	45D	-F		P	0713	1.26	1.70			DG 8
245 MANI	26	0000	0017	0004	N11	E88	.999	12461	2.6	17	-N	2		0004	.31	.96			4
245 MANI	26	0005	0026D	0019	N17	E90	1.000	12461	2.8	21D	*-N	2		0019	.31	1.00			5
246 MANI	26	0035	0050	0040	N01	E80	.985	12460	2.0	15	-F	2		0040	.31	.80			4
248 ABST	26	0504	0516	0506	N07	W20	.341	12451	24.7	12	-F		C	0506	.90	1.00			DGJ 6
250 ABST	26	0758E	0814D	0758	S07	E75	.970	12460	2.0	16D	1F		P	0758	1.80				EJ 9
252 CANR	26	1515E	1525D		N16	E85	.994	12461	3.0	10D	-N		V						3
253 PALE	26	1802E	1809	1804U	N06	W17	.291	12451	25.5	7D	-F	3	V		.26				F 3
GRP49254	27	0733	0811	0742	S04	E55	.826	12460	31.4	38	-F				.71				2 2 2 6
ABST	27	0733	0824D	0743	S03	E55	.825	12460	1.4	51D	-F		P	0743	1.08	1.80			DJK
ATHN	27	0740E	0758	0740U	S04	E55	.826	12460	1.4	18D	-F	4	V		.33				DE
255 ABST	27	0811	0818	0813	N17	E75	.962	12461	3.0	7	1F		C	0813	.99				D 8
256 CATA	27	0830	0905	0835	S07	E56	.841	12460	1.6	35	-N	3		0835	.58	1.07	1.70		7
257 MONT	27	0858	0902	0859	N13	E70	.936	12461	2.6	4	-F		C	0859	.10				8
GRP49259	27	1023	1054	1038	S06	E58	.857	12460	31.8	31	-N				.43				2 2 2 6
TEHR	27	1021	1038	1025	S05	E58	.856	12460	1.8	17	-N	3	C		.28				DE
CATA	27	1025	1110	1035	S07	E58	.859	12460	1.8	45	-N	3		1035	.58	1.13	1.86		
GRP49263	27	1340	1352	1343	N13	E71	.942	12461	1.9	12	-F				.33				2 2 2 8
RAMY	27	1339	1354	1346	N16	E72	.947	12461	3.0	15	-F	4	C		.37				DE
CATA	27	1340	1350	1340	N09	E70	.936	12461	2.8	10	-F	3		1340	.29		1.38		
262 MITK	28	0405	0423	0409	N27	E79	.977	12471	4.1	18	-F		C	0409	.52				DG 9
263 ABST	28	0756	0808	0800	S02	E41	.664	12460	1.4	10	-F		C	0800	.99	1.30			D 8

SOLAR FLARES
Unconfirmed

JULY 1973

OBSERV-ATORY	DATE JUL	OBSERVED UT START	END	MAX. PHASE	LOCATION APPROX LAT.	MER. DIST.	CENTRAL DISTANCE	NOAA PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	OBS. CONF.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	REMARKS
GRP 9268	29	0456	0521	0503	S06	E32	.559	12460	31.6	25	-N				.52				2 2 2 5
TEHR	29	0456	0521	0501	S05	E30	.526	12460	1.5	25	-N	4	V		.41				F R
MANI	29	0505E	0515D	0505U	S07	E33	.577	12460	1.7	10D	-N	2		0505	.62	.76			X
269 ABST	29	0540E	0612D	0542	S06	E34	.586	12460	1.8	32D	-F		P	0542	.90	1.10			D 5
271 CATA	29	0930	0955	0935	S08	E25	.475	12460	1.3	25	-F	3		0935	.17	.19	1.48		5
273 HUAN	29	1718	1721	1720	S04	E21	.391	12460	1.3	3	-F	2	C	1720	.21	.22			D 6
275 BOUL	30	0114	0120D	0117	N11	E90	1.000	12474	6.8	6D	-F		V						4
276 BOUL	30	0118	0120D	0120D	N20	E90	.999	12474	6.8	2D	-F		V						5
277 ABST	30	0703E	0753D	0705	S17	E17	.472	12460	1.6	50D	-F		P	0705	.90	1.00			D 8
278 MONT	30	0906	0924	0912	N06	E86	.997	12474	6.8	18	-N		C	0912	.10				7
279 RAMY	30	1038E	1105	1040U	S12	E13	.372	12460	1.4	28D	-F	3	V		.46				OE 6
282 MONT	31	0759	0805	0800	S13	E90	1.000	12472	8.1	6	-N		C	0800	.10				9
GRP 9283	31	0847	0913	0856	S06	E04	.214	12460	31.7	26	-F				.31				2 2 1 9
ISTA	31	0841	0909		S06	E05	.220	12460	1.7	28	-F								
CANR	31	0852	0917	0856	S06	E03	.209	12460	1.6	25	-N		V	0856	.31	.30			
284 MANI	31	2218	2230	2220	S10	E90	1.000	12472	8.7	12	-N	1		2220	.52	1.68			2

"Remarks":

A = Eruptive prominence, base at >90°.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No spots visible in the neighborhood.
H = Flare with high velocity dark surge.
I = Very extensive active region.
J = Plage with flare shows marked intensity variations.
K = Several intensity maxima.
L = Filaments show effects of sudden activation.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H or K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line.
S = Brightening follows disappearance of filament (same position).
T = Region active all day.
U = Close and somewhat parallel bright filaments ( ) or Y shape).
V = Occurrence of an explosive phase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα emission.
Y = Onset of a system of loop-type prominences.
Z = Major sunspot umbra covered by flare.

Note:
A line of explanation has been added before each flare event having more than one maxima. The total number of stations reporting some part of the event is given. The number of stations observing at the time of the principal maximum but not reporting the event is given in the second statement. Care should be exercised in utilizing the numbers in the remarks column. The first number is the number of stations reporting the individual maximum, and not the total number of stations reporting some part of the flare event. The last number is the number of stations reporting at the time of the individual maximum and not necessarily the total number of stations observing during the flare event. GRP numbers may appear several times in order to indicate secondary maxima. An asterisk beside an importance indicates a secondary maximum. The word "GRP" has also been omitted to aid in pointing to this condition.
When it is impossible to determine the time of Maximum Phase from the individual reports the time of Area Measurements is used. This time appears in parentheses. For Flares reported by only one station the last 3 digits of the group number appear to the left of the station code.

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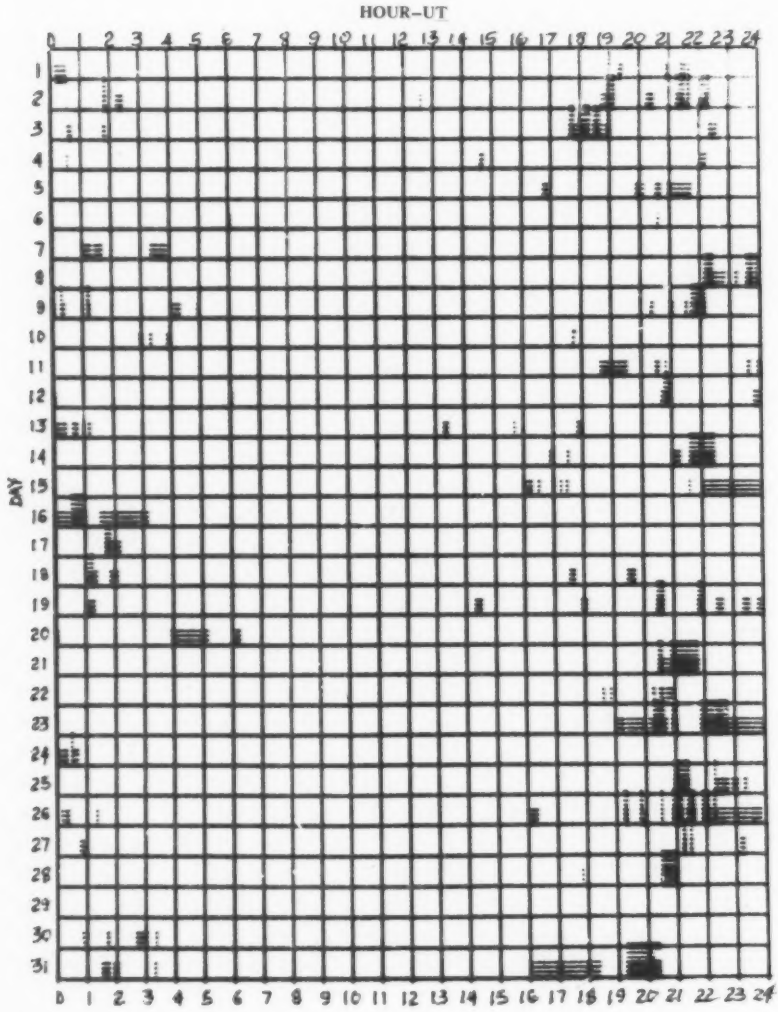
Jul 73

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

JULY 1973



Observatories included in total patrol:

Abastumani	Carnarvon	Herstmonceux	Kiev	Meudon	Ramey	Voroshilov
Arcetri	Catania	Huancayo	Locarno	Mitaka	Tachkent	Wendelstein
Athenes	Culgoora	Istanboul	Manila	Monte Mario	Teheran	Zürich
Bucharest	Gran Canaria	Kharkov	McMath-Hulbert	Palehua	Upice	

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JULY 1973

JUL. 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
1	1420	CRON	8	0149	0149.5	1	5.0	1.0		
	221	ABST	48	0710.5	0711.5	1.5	25.0	8.0		
	808	ONDR	45	0744.5	0745	1.5	65.0			
	606	MANI	4	0754.5	0755.5	1.9	18.3	2.4		
	4995	MANI	1	0755.4	0755.7	.9	4.7	1.6		
	4995	ATHN	1	0755.7	0755.9	1.4	5.3	1.8		
	3750	TYKW	1	0755.3	0755.7	1	6.0	2.0		
	3000	BERL	2	0755	0755.5	2	5.6	2.0		
	2695	ATHN	1	0755.7	0756.1	1.4	7.9	2.3		
	2695	MANI	1	0755.4U	0755.7U	2.4U	5.4U	1.3D		
	2695	CANR	8	0755	0756	1.5	7.0	3.0		
	2000	TYKW	1	0755.3	0755.7	1	9.0	3.0		
	1500	BERL	4	0755	0755.5	2	13.0	4.5		
	1420	CANR	8	0755.5	0756.5	1.5	12.0	4.0		
	1415	MANI	4	0755.5	0755.6	1.5	16.7	4.7		
	1415	ATHN	3	0755.7	0756	1.2	17.4	5.8		
	1000	TYKW	1	0755.5	0755.8	2	4.0	1.0		
	536	ONDR	5	0755.5	0755.5	1.5	35.0			
	510	POTS	45	0755.5	0755.6	.2	200.0	60.0		
	260	ONDR	5	0755.5	0755.5	1.5	240.0D			
	234	POTS	45	0755.5	0755.6	.4	1300.0	250.0		
	225	HARS	5	0755	0755.5	1.5	80.0	30.0		
	200	HIRA	45	0755.4	0755.6	1.5	820.0D	350.0D		
	200	GORK	6	0755.5	0755.9U	.9	400.0D			
	100	GORK	41	0755.7	0755.8	1	120.0			
	100	GORK		0755.7	0756		100.0			
	23	POTS	5	0755.7	0755.8	.6	3500.0	1200.0		
	808	ONDR	5	0756	0756	1.5	60.0			
	2695	BOUL	3	1830.5	1832	2	5.0	2.0		
2	930	BORD	45	0807	0807.8	1	20.0	2.0		
	2700	PENN	45	1817.6	1819.4	2	11.2	1.8		
	7000	SAOP	1	1847.1	1847.7	1.1	3.3	1.1		
	4995	BOUL	3	2332	2333	2	7.0	2.0		
	3750	TYKW	1	2332	2334.2	4	5.0	2.0		
	2695	BOUL	45	2332	2334.5	3.5	4.0	1.0		
	2000	TYKW	1	2332	2332.3	1	1.5	0.4		
	1420	BOUL	45	2332	2332.5	1.5	3.0	1.0		
	1000	TYKW	45	2332	2333.2	4	11.0	2.0		
	9400	TYKW	1	2333	2334	2	3.0	1.0		
3	100	GORK	44	0300 E		600 D		5.0		
	260	ONDR	44	0500	0702.5	660	240.0D			
	221	ABST	44	0700	0756.5	240	8.0			
	204	KIEV	44	0730 E		480 D	63.0	4.0		
	245	SGMR	44	0915 E	1004.2	905 D	186.0			
	410	SGMR	43	1900	1948.4	320 D	12.4			
	100	GORK	41	0301	0301.2	6.3	60.0			
	100	GORK		0301	0303.1		60.0			
	100	GORK		0301	0306.6U		60.0			
	100	HIRA	45	0305.8	0306.5	1.2	230.0	80.0		
	200	HIRA	45	0306	0306.5	1	470.0	50.0		
	200	GORK	6	0306.2	0306.8	.9	400.0			
	3750	TYKW	1	0320	0321	10	4.0	1.0		
	2000	TYKW	45	0320	0331	13	4.0	0.5		
	100	GORK	6	0410.8	0411.3	.8	40.0			
	100	HIRA	45	0450	0450.6	2	90.0	20.0		
	100	GORK	41	0450.2	0450.7U	5.1	100.0D			
	100	GORK		0450.2	0454.6		1000.0			
	200	GORK	41	0536	0536.2	1	70.0			
	200	GORK		0536	0536.7		30.0			
	100	GORK	41	0550.4	0551	3.1	100.0D			
	100	GORK		0550.4	0553		100.0D			
	100	GORK	6	0644.1	0644.3	.7	150.0D			
	100	GORK	6	0711.3	0712.3	2.2	150.0			
	221	ABST	48	0730	0730.8	1.5	32.0			
	210	IZMI	6	0731.5	0732	2	230.0	115.0		
	221	ABST	48	0755.8	0756.5	2.8	32.0			
	210	IZMI	41	0755.7	0757.5	33.3	200.0			
	100	GORK		0806.6	0812.1		200.0			
	100	GORK		0806.6	0818.4		1500.0			
	221	ABST	41	0806.6	0806.8	1.2	28.0			
	100	GORK	41	0806.6	0806	13.8	150.0D			
	100	HIRA	45	0811.5	0812	1.5	230.0	70.0		
	29	UPIC	45	0812	0812.5	8.5				
	23	POTS	45	0812.6	0812.8	.9	10000.0U	2500.0U		
	100	HIRA	45	0817.4	0818.4	2	140.0	50.0		
	234	POTS	45	0825.8	0825.8	.1	140.0	30.0		
	221	ABST	41	0825.2	0825.8	1.2	32.0			
	234	POTS	45	0851.4	0851.4	.1	250.0	60.0		
	100	GORK	41	0940.6	0941.1	2.6	170.0			
	100	GORK		0940.6	0942.9		150.0			
	100	GORK	6	1004.3E	1004.5	.8	140.0			
	221	ABST	41	1005.5	1005.8	.5	28.0			
	100	GORK	41	1019.8	1020.4	1.2	150.0D			
	100	GORK		1019.8	1020.9		150.0D			
	29	UPIC	45	1020	1021	2				
	100	GORK	6	1123.3	1123.5	.7	140.0			
	100	GORK	41	1141.7	1142.7	5.8	70.0			
	100	GORK		1141.7	1145.4		150.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JULY 1973

JUL. 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
	100	GORK		1141.7	1146.3		2000.0			
	29	UPIC	45	1144	1146	4				
	408	TRST	45	1146	1146.5	1.1	59.0	11.0		
	100	GORK	41	1226.4	1228.2	9.6	130.0			
	100	GORK		1226.4	1230		130.0			
	100	GORK		1226.4	1233.3		130.0			
	100	GORK		1226.4	1235.4		130.0			
	100	GORK	6	1259.6	1300	1	130.0			
	18	MCMA	6	1404	1406	3			1	
	18	MCMA	6	1422	1424	3			1	
	18	MCMA	6	1538	1542	5			2	
	410	SGMR	6	1539.4	1541.3	2.9	19.4	4.9		
	245	SGMR	7	1539.2	1539.4	6.9	475.0	120.0		
	29	UPIC	45	1540	1540.5	3				
	18	MCMA	6	1733	1737	6			2	
	18	MCMA	6	1918	1920	5			2	
	9400	HUAN	1	1931.9	1932.5	1.2	15.3	3.1		
	245	SGMR	49	1931.9	1933.5	6.9	1025.0	110.0		
	18	MCMA	6	1931	1937	7			3	
	15400	SGMR	3	1932.3	1932.5	.6	12.6	3.0		
	10700	PENN	3	1932.4	1932.5	.6	16.8	5.6		
	8800	SGMR	3	1932.3	1932.5	.6	20.4	4.0		
	4995	SGMR	1	1932.3	1932.5	.8	3.0	1.0		
	2800	OTTA	1	1932	1932.5	1	1.6	0.8		
	2695	SGMR	1	1932.3	1932.4	.6	3.8	1.0		
	1415	SGMR	40	1932.4	1932.5	6.2	3.6	1.0		
	960	PENN	1	1932.4	1932.5	1	3.5	0.7		
	606	SGMR	3	1932.4	1932.5	.4	16.9	4.0		
	410	SGMR	6	1932.3	1933.5	5.1	132.0	25.0		
	200	HIRA	45	1932		1	820.0D	400.0D		
	100	HIRA	45	1932	1932.5	1.7	240.0	60.0		
	100	HIRA	45	1934.2	1936.3	3	200.0	80.0		
	18	MCMA	42	2004	2014	11			2	
	18	MCMA	6	2024	2026	6			2	
	18	MCMA	6	2043	2046	4			2	
	100	HIRA	45	2131.5	2131.7	1	240.0	60.0		
	100	HIRA	45	2134.5	2135	1.5	130.0	20.0		
	100	HIRA	45	2313	2313.3	1.5	150.0	40.0		
	100	HIRA	45	2352	2353.3	2.5	260.0	60.0		
4	2695	PENT	20	0000	0005	85	1.4	0.8		
	100	HIRA	45	0003	0004.5	3.5	200.0	60.0		
	9750	IRKU	20	0039	0057.6	39	15.0			
	100	HIRA	45	0104.3	0104.4	1	200.0	50.0		
	100	HIRA	45	0142	0142.6	3	170.0	40.0		
	1420	CRON	45	0201.5	0213.5	26	23.0	6.0		
	606	MANI	4	0201.4	0214	22.9	112.0	30.5		
	2695	MANI	4	0202.5	0205	17.6	22.2	8.6		
	2695	CRON	45	0202.5	0204.5	20.5	15.0	5.0		
	2000	TYKW	45	0202	0205	50	20.0	4.0		
	1415	MANI	4	0202.1	0213.9	18.2	21.2	7.7		
	4995	MANI	20	0203.2	0205.4	25.2	8.0	3.2		
	4995	CRON	3	0203.5	0205.5	5	7.0	3.0		
	3750	TYKW	45	0203 E	0205	50 D	11.0	3.0		
	1000	TYKW	45	0203 E	0213.2	25 D	60.0	12.0		
	500	HIRA	45	0203.6	0214	20	75.0	20.0		
	9400	TYKW	20	0204 E	0217	30 D	4.0	2.0		
	200	HIRA	45	0205.5	0206	2	150.0	55.0		
	100	HIRA	45	0205.5	0207.6	7	240.0	100.0		
	606	MANI	4	0246.7	0249.3	4.4	15.2	1.2		
	100	GORK	44	0301 E		599 D		5.0		
	260	ONDR	44	0520	1220	640	45.0			
	204	KIEV	44	0700 E		480 D	21.0	8.0		
	245	SGMR	44	0916 E	1612	869.1D	70.0			
	200	GORK	6	0303.7	0304.3	1.4	100.0	45.0		
	200	HIRA	45	0426.5	0427	2.5	140.0	60.0		
	200	GORK	48	0426.9	0427.3	2.8	70.0	25.0		
	200	GORK	41	0442.9	0443.3	7	14.0			
	200	GORK		0442.9	0445.3		14.0			
	100	GORK	41	0442	0445.3	6	150.0D			
	100	GORK		0442	0447.3		1800.0D			
	29	UPIC	45	0444	0446.5	4				
	100	HIRA	45	0445	0445.8	1	180.0	60.0		
	100	HIRA	45	0447	0447.2	1	180.0	40.0		
	100	HIRA	45	0601.5	0602.2	1	130.0	40.0		
	100	GORK	6	0601.8	0602.2	.9	120.0			
	100	GORK	41	0615	0615.2	4.2	120.0D			
	100	GORK		0615	0618.9		120.0			
	200	GORK	6	0616.8	0616.9	.5	70.0	40.0		
	100	GORK	41	0639.2	0639.3	2.2	120.0			
	100	GORK		0639.2	0641.2		130.0			
	100	GORK	41	0651.4	0651.7	2.9	120.0			
	100	GORK		0651.4	0654.1		120.0			
	100	GORK	41	0719.6	0719.8	9	120.0			
	100	GORK		0719.6	0728.2		150.0D			
	23	POTS	5	0727.8U	0728 U	.7U	7000.0	2500.0		
	100	GORK	41	0826.5	0828.8	17.2	350.0D			
	100	GORK		0826.5	0843.2		180.0			
	29	UPIC	45	0826	0828	3.5				
	100	HIRA	45	0827.5	0828.7	2	100.0	20.0		

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JUL. 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
	23	POTS	40	0827.5U	0828.8U	2.5U	6500.0	1000.0		
	200	GORK	41	0828.7	0829.1	2	24.0			
	200	GORK		0828.7	0830.3		7.0			
	100	GORK	41	0929.3	0929.9	8.6	130.0			
	100	GORK		0929.3	0936.9		150.0			
	29	UPIC	45	0930		9				
	23	POTS	40	0934.8U	0936.3U	3.2U	60000.0	5000.0		
	100	GORK	6	0955.3	0956.9	2.8	70.0			
	408	TRST	42	1016.2	1019.4	3.3	36.0			
	100	GORK	6	1154.7	1154.9	.6	230.0			
	29	UPIC	45	1154.5	1155	1				
	23	POTS	5	1154.3U	1154.8U	1 U	2000.0	700.0		
	29	UPIC	45	1211.5		19				
	100	GORK	41	1212	1212.3	3	220.0D			
	100	GORK		1212	1214.4		100.0			
	23	POTS	41	1212 U	1212.1U	2.5U	7000.0	150.0		
	100	GORK	41	1221.9	1225.5	11.4	220.0D			
	100	GORK		1221.9	1227.4		220.0			
	100	GORK		1221.9	1231		250.0D			
	23	POTS	41	1221 U	1222 U	12 U	28000.0	370.0		
	536	ONDR	45	1455.5	1456	8	40.0			
	7000	SAOP	22	1521.2		49.6	10.3			
	18	MCMA	6	1557	1600	4			2	
	606	SGMR	20	1806.2	1808.7	26.9	6.4	3.2		
	410	SGMR	6	1806.7	1819.5	37.7	41.7	16.8		
	245	SGMR	6	1806.7	1824.2	38.3	122.0	50.0		
	245	BOUL	42	1810	1825	31			1	
	18	MCMA	6	1819	1822	5			2	
	18	MCMA	6	1827	1831	4			3	
	9400	HUAN	1	1916.9	1917.3	1.3	13.6	5.4		
5	2695	PENT	21	0112	0118	33	2.8	1.4		
	2695	CRON	3	0112.5	0115	4	6.0	2.0		
	3750	TYKW	45	0113	0114.9	30	6.0	1.0		
	4995	MANI	1	0114.4	0115	1.4	3.2	1.6		
	2695	MANI	1	0114.4	0115	1.2	4.9	2.4		
	2695	PENT	1	0114.5	0115	2	4.0	2.0		
	2695	BOUL	3	0114.5	0115.5	2.5	6.0	2.0		
	2000	TYKW	1	0114	0115	2	1.0	0.3		
	260	ONDR	44	0500	0645.5	410	115.0			
	245	SGMR	43	1144.3	1520	754.7D	86.4			
	260	ONDR	44	1150	1337.5	250	240.0D			
	245	BOUL	42	1201	1408	277			2	
	410	SGMR	43	1456	1523.6	563 D	9.8			
	100	GORK	6	0551.9	0552.1	.5	130.0	60.0		
	100	GORK	41	0641.3	0641.6	5.3	130.0			
	100	GORK		0641.3	0646.1U		150.0D			
	234	POTS	45	0645.8	0645.9	.4	350.0	70.0		
	200	HIRA	45	0645.8	0645.9	.8	750.0	300.0		
	200	GORK	6	0645.7	0645.9U	.6	100.0D			
	100	HIRA	45	0645.5	0646	1	85.0	30.0		
	23	POTS	45	0646.1	0646.2	.6	8000.0U	2500.0U		
	100	GORK	6	0712.7	0713.3	.9	140.0	75.0		
	221	ABST	48	0815.8	0817.5	2.8	19.0	6.0		
	221	ABST	41	0825	0826	2.2	23.0	6.0		
	2695	CANR	3	0935	0938	6.5	3.0	1.0		
	536	ONDR	45	1231	1235	9	50.0			
	408	TRST	42	1233	1235.6	3	59.0			
	200	GORK	6	1233.3	1233.5	.6	80.0	40.0		
	100	GORK	6	1233	1233.7	1.3	10.0			
	2800	OTTA	24	1300		40	1.6			
	225	HARS	45	1457.5	1458.5	3	170.0	65.0		
	2800	OTTA	20	1905		120	1.6	0.9		
	245	BOUL	42	1948	1954	76			2	
	2800	OTTA	20	2155	2205	35	2.6	0.8		
	245	SGMR	7	2251	2252.2	2.4	279.0	70.0		
6	100	GORK	44	0400		120		5.0		
	100	GORK	6	0449.8	0450.1	.8	50.0	25.0		
	260	ONDR	41	0500	0954.5	660	65.0			
	100	GORK	6	0516	0516.1	.3	50.0	25.0		
	100	GORK	6	0528.5	0528.7	.5	50.0	25.0		
	3100	CRIM	20	0719	0759	21	7.0	2.0		
	808	ONDR	45	0727	0727	3	65.0			
	100	GORK	6	0737.2	0738.4	1.5	50.0	25.0		
	100	GORK	6	0755.8	0756.2	.8	50.0D			
	100	GORK	41	0841.5	0841.9	5.5	50.0			
	100	GORK		0841.5	0846.7		50.0D			
	100	GORK	41	0928.4	0928.7	1.7	50.0			
	100	GORK		0928.4	0929.8		25.0			
	100	GORK	6	1245.2	1245.7	.9	40.0	20.0		
	1420	CANR	8	1452	1452.5	1	9.0	4.0		
	1420	CANR	8	1527.5	1528	1	5.0	2.0		
	7000	SAOP	40	1622.8		50	7.9			
	8800	MANI	4	2329.4	2329.5	1.6	34.8	6.2		
	208	VORO	43	2338	0027	82	24.0	12.0		
	245	SGMR	6	2343.8	2345	3.1	175.0	100.0		
	2695	MANI	1	2352.3	2352.5	.6	4.1	1.4		
	1415	MANI	3	2352.4	2352.4	.5	12.6	1.8		
7	245	BOUL	42	0005	0028	70			1	

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JUL. 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
	100	HIRA	45	0420.5	0421.2	5.5	180.0	40.0		
	260	ONDR	41	0510	1216.5	590	40.0			
	245	SGMR	44	0917 E	1053.7	400.30	65.6			
	204	KIEV	44	1100 E		225	23.0	6.0		
	2695	CRON	45	0513.5	0514.5	3.5	5.0	2.0		
	3750	TYKW	45	0515	0515.5	8	3.0	1.0		
	2000	TYKW	45	0515	0515.5	12	6.0	1.0		
	1420	CRON	3	0515	0915.5	4	4.0	1.0		
	1000	TYKW	45	0515	0516.8	4	5.0	1.0		
	2800	OTTA	20	1200	1240	115	1.6	0.8		
	2800	OTTA	22	1450	1615	130	2.0	1.1		
	4995	BOUL	8	2050.5	2051.5	1.5	13.0	4.0		
	4995	SGMR	3	2051.9	2052.5	2.5	11.7	4.0		
	2800	OTTA	3	2051	2051.5	3	24.4	6.1		
	2800	OTTA	29	2054		22	2.8	1.2		
	2700	PENN	3	2051.7	2052.6	2.8	15.9	3.4		
	2695	SGMR	3	2051.7	2052.6	2.7	22.4	7.3		
	1420	BOUL	8	2051.5	2052.5	2	14.0	5.0		
	1415	SGMR	4	2051.8	2052.6	2.3	19.8	6.6		
	8800	SGMR	1	2052.4	2052.6	2	6.1	2.0		
	2695	BOUL	8	2052	2053	2.5	24.0	9.0		
	606	SGMR	1	2052	2052.4	1.5	5.1	1.7		
	410	SGMR	6	2052	2052.2	1.7	96.8	22.0		
	245	SGMR	6	2123.6	2126.4	4.9	40.3	16.2		
8	3750	TYKW	20	0201	0203.4	30	3.0	1.0		
	3750	TYKW	20	0315	0325	35	2.0	1.0		
	100	GORK	41	0318.5	0318.6	5.2	40.0			
	100	GORK		0318.5	0321.6		30.0			
	100	GORK		0318.5	0323.2		35.0			
	260	ONDR	44	0650	1134	370	110.0			
	4995	CANR	3	0802.5	0804.5	2.5	14.0	5.0		
	3000	BERL	4	0808.5	0814.2	32	16.0	2.6		
	8800	MANI	3	0810.9	0814.1	5.5	14.2	6.1		
	4995	MANI	4	0810.9	0814.4	5.5	14.8	6.6		
	2950	GORK	45	0810.1	0813.5	7	14.6	6.5		
	2950	GORK		0810.1	0814.5		19.5			
	2695	MANI	4	0810.9	0814.2	5.5	17.6	6.3		
	1415	MANI	4	0810.9	0814.2	4.5	23.5	5.6		
	1415	ATHN	46	0810.7	0814.2	7.9	28.1	9.4		
	4995	ATHN	3	0811.8	0814.3	3.3	14.6	4.9		
	2695	ATHN	4	0811.6	0814.2	6.5	18.6	7.0		
	2695	CANR	4	0811.5	0814.5	10	16.0	5.0		
	2695	CRON	3	0811	0814	7	12.0	4.0		
	1500	BERL	4	0811.2	0814	4.8	25.0	6.7		
	1420	CANR	4	0811.5	0814.5	5.5	23.0	7.0		
	1420	CRON	4	0811.5	0814.5	8.5	27.0	9.0		
	9500	BERL	22	0812.5	0814	21	6.8			
	8800	ATHN	3	0812.7	0814	2.3	12.2	4.1		
	536	ONDR	45	0812.5	0814	3.5	55.0			
	4995	CRON	3	0813	0814	2	9.0	3.0		
	808	ONDR	45	0813	0814	3	80.0			
	606	MANI	4	0813	0813.4	1.8	10.2	2.4		
	221	ABST	7	0852.8	0853.2	.8	14.0			
	221	ABST	7	1051.8	1052	.5	17.0			
	210	IZMI	41	1108	1158.5	52.5	150.0			
	234	POTS	40	1134.1	1134.2	.4	200.0	20.0		
	2800	OTTA	21	1135	1150	85	5.4	2.0		
	8800	ATHN	23	1146	1154.2	18.5	8.2	3.1		
	2695	ATHN	23	1146.6	1150.7	17	4.6	2.3		
	2695	SGMR	21	1146.3	1150.8	25.9	4.8	1.6		
	3000	BERL	21	1147.5	1155.9	33	45.0	4.2		
	4995	ATHN	23	1148.6	1154.3	15.5	7.5	2.5		
	4995	SGMR	21	1149	1154.2	18	6.8	2.7		
	1500	BERL	3	1149	1155.9	36	37.0	10.0		
	1415	SGMR	1	1149	1150.8	2	6.2	2.1		
	1415	ATHN	23	1149.1	1150.7	14.5	2.2	1.1		
	2695	CANR	3	1150	1151.5	1.5	3.0	1.0		
	1420	CANR	3	1150	1151	1.5	2.0	1.0		
	8800	SGMR	21	1152	1201.2	15	6.1	2.8		
	9500	BERL	4	1154	1155.9	6	50.0	13.0		
	4995	CANR	8	1154.5	1156	3.5	63.0	26.0		
	536	ONDR	45	1154	1156	6	70.0			
	15400	SGMR	3	1155	1156.1	4	18.6	6.2		
	10700	PENN	3	1155.3	1156.2	3	48.1	10.7		
	9400	HUAN	3	1155.2	1156.2	4.7	70.7	23.0		
	8800	SGMR	3	1155.4	1156.2	3.6	70.5	23.1		
	4995	SGMR	4	1155.3	1156.2	2.9	85.8	28.6		
	2800	OTTA	3	1155	1156.1	3	38.4	12.8		
	2700	PENN	3	1155.1	1156.2	3.2	72.4	14.2		
	2695	SGMR	4	1155.4	1156.3	3.1	35.7	11.6		
	2695	CANR	8	1155.5	1157	6	42.0	16.0		
	1420	CANR	8	1155.5	1156	5	31.0	11.0		
	1415	SGMR	4	1155.4	1156.3	2.9	81.2	27.1		
	960	PENN	45	1155.3	1155.9	3	56.5	5.8		
	930	BORD	45	1155	1156	5	118.0	7.0		
	606	SGMR	4	1155.6	1155.7	1.6	37.2	12.4		
	808	ONDR	45	1156	1156.5	4	115.0			
	2800	OTTA	22	1515	1543	105	5.8	2.9		
	7000	SAOP	32	1555.2		42	-17.0			

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JUL. 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
	2800	OTTA	20	1730	1740	40	3.6	1.8		
	2800	OTTA	32	1825	1855	38	-2.6	-1.3		
	4995	SGMR	23	1859.8	2006.1	120.2	8.4	3.5		
	2695	SGMR	23	1859.8	2006.1	110.8	9.2	4.0		
	1415	SGMR	21	1859	2006	79.8	5.5	2.0		
	8800	SGMR	23	1900.6	1917.4	74.9	8.4	3.5		
	2800	OTTA	23	1903	1910	260	5.0	2.5		
	245	SGMR	6	1906.6	1908.6	8	29.9	5.0		
	410	SGMR	6	1913.6	1918.3	8.8	11.7	3.0		
	2695	BOUL	45	2002.5	2007	19.5	5.0	2.0		
	2800	OTTA	1	2003.5	2006.5	5	4.2	1.4		
	606	SGMR	1	2005.9	2006.3	2.7	5.2	1.1		
	8800	SGMR	1	2006.3	2006.4	1.1	9.1	2.5		
	4995	SGMR	1	2006.2	2006.4	.7	3.4	1.0		
	2695	SGMR	1	2006.3	2006.4	.4	2.6	1.0		
	1420	BOUL	8	2006	2007	2	7.0	3.0		
	1415	SGMR	1	2006.2	2006.6	1.5	7.8	2.0		
	410	SGMR	6	2006	2006.4	1.6	10.9	2.2		
	245	SGMR	43	2204.2	2230.8	133.8D	111.2			
	410	SGMR	43	2206.5	2251.2	131.5D	51.1			
	208	VORO	44	2212	2252	80	104.0	12.0		
	2695	PENT	21	2330	0005	145 D	8.6			
	2695	PENT	20	2330	2340	15	2.8	1.4		
	3750	TYKW	20	2345	2426.2	120	8.0	3.0		
	1000	TYKW	45	2426	2426.2	.6	21.0	4.0		
9	2695	PENT	1	0026	0026.2	1	2.6	0.9		
	3750	TYKW	1	0357	0358	5	2.0	1.0		
	3750	TYKW	20	0440	0512.3	60	19.0	5.0		
	3750	TYKW	29	0540		60	4.0	2.0		
	2695	CRON	3	0508	0511.5	9	10.0	3.0		
	4995	CRON	3	0509	0512.5	9	8.0	3.0		
	260	ONDR	41	0510	1225.5	680	60.0			
	3100	CRIM	20	0720	0840	260	4.0	1.0		
	930	BORD	45	1201	1201.5	1	10.0	2.0		
	2800	OTTA	20	1255	1345	115	2.4	1.2		
	4995	SGMR	8	1337.8	1337.9	.3	11.8	4.0		
	2695	SGMR	8	1337.7	1337.8	.3	33.2	11.1		
	1415	SGMR	1	1337.8	1337.8	.2	3.7	1.2		
	2800	OTTA	21	1620	1650	190	6.6	3.5		
	4995	BOUL	3	1623	1626.5	6	11.0	3.0		
	2700	PENN	20	1624.9	1627	87.6	9.7	2.7		
	4995	SGMR	1	1625.1	1627.7	5.5	8.0	4.0		
	4995	CANR	3	1625	1627.5	4.5	8.0	3.0		
	2800	OTTA	2	1625	1628	5	5.4	2.7		
	2695	SGMR	1	1625.9	1627.6	5.1	5.0	2.0		
	8800	SGMR	2	1626	1627.7	5	8.4	4.0		
	2695	CANR	45	1626.5	1629	5	5.0	2.0		
	2695	BOUL	45	1627	1628.5	2.5	5.0	2.0		
	2695	CANR	3	1745.5	1746.5	1.5	6.0	2.0		
	29	UPIC	45	1829.5	1835	13.5				
	2800	OTTA	20	1940	2010	70	3.4	1.7		
10	3750	TYKW	20	0212	0217.8	40	3.0	1.0		
	9400	TYKW	3	0215	0217.7	35	24.0	4.0		
	9750	IRKU	1	0216	0217.8	7	14.0			
	8800	MANI	3	0216.2	0217.8	7	22.2	8.1		
	4995	MANI	3	0216.2	0217.8	7	13.2	4.4		
	4995	CRON	3	0216	0218	2.5	10.0	3.0		
	260	ONDR	44	0510	1237	660	75.0			
	245	SGMR	43	1228	1238.1	432	73.3			
	245	BOUL	42	1242	1304	48			1	
	204	KIEV	44	1245	1325	195 D	22.0	9.0		
	9400	TYKW	1	0551.3	0552	1.5	3.0	3.0		
	9100	GORK	20	0551.8	0552.1	.6	9.5			
	3750	TYKW	1	0551.3	0552	1.5	5.0	2.0		
	4995	CRON	3	0626.5	0627.5	3	5.0	2.0		
	100	GORK	6	0628.9	0629.3	1	45.0	20.0		
	4995	CRON	3	0647.5	0648.5	1.5	10.0	3.0		
	9400	TYKW	1	0648	0648.8	2	5.0	2.0		
	4995	CANR	3	0648.5	0649	1.5	4.0	1.0		
	3750	TYKW	1	0648	0648.8	2	6.0	3.0		
	3750	TYKW	29	0650		11	3.0	2.0		
	9500	BERL	4	0701	0702.4	25	19.0	2.6		
	9400	TYKW	45	0701	0702.6	3	26.0	8.0		
	9400	TYKW	29	0704		56 D	4.0	2.0		
	9100	GORK	2	0701.6	0702.7	2.4	19.3	6.5		
	4995	CANR	45	0701.5	0702.5	3	16.0	5.0		
	4995	CRON	8	0701	0702.5	4	30.0	8.0		
	3750	TYKW	45	0701	0702.6	4	53.0	16.0		
	3750	TYKW	29	0705		55 D	6.0	3.0U		
	3100	CRIM	4	0701	0703	35	37.0	12.0		
	3000	BERL	4	0701.5	0702.5	109	38.0	3.1		
	2695	CRON	45	0701	0702.5	4	30.0	11.0		
	2000	TYKW	45	0701	0702.7	4	24.0	9.0		
	2000	TYKW	29	0705		55 D	3.0	2.0U		
	1500	BERL	4	0701.5	0702.7	44	13.0	2.3		
	1420	CANR	45	0701.5	0703	3	12.0	5.0		
	1420	CRON	3	0701.5	0703	3.5	13.0	5.0		
	1000	TYKW	45	0701	0701.8	4	30.0	4.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JULY 1973

JUL. 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
	930	BORD	45	0701	0701.5	3	146.0	3.0		
	808	ONDR	45	0701	0702.5	2.5	75.0			
	2695	CANR	45	0702	0703.5	2.5	42.0	13.0		
	221	ABST	7	0722	0722.2	.5	21.0			
	100	GORK	41	0856.1	0856.9U	6.1	50.0D			
	100	GORK		0856.1	0904.9		45.0			
	100	GORK	42	1051.2	1051.3	35.6	55.0			
	100	GORK		1051.2	1109.7		55.0			
	100	GORK		1051.2	1126.8		55.0			
	8800	SGMR	4	1354.9	1356.9U	3.6U	16.2U	4.0U		
	7000	SAOP	4	1354.8	1357.2	5.1	23.5	12.3		
	9500	RERL	3	1355	1356.7	7.5	17.0	4.0		
	9400	HIAN	1	1355.3	1356.9	3.1	20.2	6.0		
	4995	SGMR	4	1355.4	1356.9U	4.6U	10.0U	2.2U		
	4995	CANR	3	1355	1356.5	2.5	4.0	1.0		
	15400	SGMR	4	1356.4	1356.9U	3.7U	18.2U	4.1U		
	10700	PENN	3	1356.2	1356.8	1.6	11.8	3.6		
	7000	SAOP	4	1403.4	1404.1	1.7	11.2	5.6		
	2800	OTTA	20	1602	1630	38	1.4	0.7		
	2800	OTTA	20	1710	1735	92	1.6	0.8		
	2800	OTTA	20	1850	1855	45	1.2	0.9		
	3750	TYKW	1	2230	2232	9	3.0	1.0		
11	3750	TYKW	1	0046.3	0046.7	1	1.0	0.5U		
	100	HIRA	45	0123.5	0124.3	5	100.0	25.0		
	3100	CRIM	1	0624	0627	5	5.0	2.0		
	3750	TYKW	20	0625	0627	20	3.0	1.0		
	260	ONDR	45	0640	0807	120	50.0			
	29	UPIC	45	0818		13				
	221	ABST	7	0907.8	0908	.5	25.0			
	100	GORK	6	0938.6	0939	.7	70.0	35.0		
	2800	OTTA	20	1430		130	1.6	1.0		
	2800	OTTA	20	2005	2012	13	1.4	0.7		
	2800	OTTA	20	2030	2040	20	1.4	0.7		
	4995	BOUL	3	2034.5	2035.5	3.5	11.0	3.0		
	2695	PENT	1	2322	2324.3	6	8.8	4.4		
	2695	PENT	29	2328		35	2.6	1.3		
	3750	TYKW	20	2323	2324.3	20	7.0	2.0		
	2695	BOUL	3	2323	2324.5	9	10.0	3.0		
	2000	TYKW	20	2323	2324.3	20	2.0	0.7		
12	3750	TYKW	45	0044	0050	20	3.0	1.0		
	2695	PENT	20	0130	0147	25 D	5.2			
	3750	TYKW	45	0136	0148	40	4.0	2.0		
	2800	OTTA	20	1110	1120	40	1.8	0.9		
	2695	BOUL	3	1519.5	1521.5	6	4.0	1.0		
	2800	OTTA	1	1520	1522	8	3.4	1.7		
	2800	OTTA	29	1528		25	1.2	0.6		
	2695	CANR	3	1520.5	1523	8.5	3.0	1.0		
14	100	HIRA	45	0111.5	0118	8	1000.0	60.0		
15	100	HIRA	45	0257.5	0258.3	2.5D	450.0	50.0U		
	930	BORD	5	0842	0842.3	1	9.0	1.0		
	260	ONDR	45	0932.5	0935	3.5	30.0			
	930	BORD	5	1059	1059.2	1	21.0	1.0		
	930	BORD	5	1316	1316.2	1	11.0	1.0		
16	260	ONDR	5	0640.5	0640.5	.5	25.0			
	200	HIRA	45	0738.5	0738.8	.5	150.0	40.0		
17	7000	SAOP	20	1220.2		14.8	4.5			
	7000	SAOP	41	1409.2	1412.4	34.6	5.6			
	7000	SAOP	2	1409.2	1412.4	7.3	5.6	4.5		
	7000	SAOP	2	1416.5	1420.7	9.8	4.5	2.3		
	7000	SAOP	22	1426.3		17.5	4.5			
	7000	SAOP	24	1444.2			10.1			
	2800	OTTA	24	2000		50	2.2			
18	200	HIRA	45	0238	0239	2	100.0	15.0		
	100	HIRA	45	0238	0239	2.5	140.0	60.0		
19	930	BORD	45	1311	1311.9	1	16.0	2.0		
	7000	SAOP	3	1622.9	1623.5	2.7	12.6	5.7		
20	1420	CROM	8	0759.5	0801	2	3.0	1.0		
	29	UPIC	45	1436.5	1437.5	1.5				
	7000	SAOP	22	1619.1		19.5	8.9			
	2800	OTTA	20	1840	1900	60	1.8	1.0		
	18	MCMA	6	1843	1845	5				
	606	SGMR	1	1844.8	1845	.3	3.2	1.5	2	
	410	SGMR	6	1844.6	1845.1	3.6	4.4	1.5		
	245	SGMR	6	1844.6	1845	4.6	1.7	.5		
	200	HIRA	45	2313.5	2314	1	150.0	60.0		
	200	HIRA	45	2315.7	2315.9	.5	150.0	50.0		
21	4995	CANR	3	0708.5	0710.5	4	14.0	5.0		
	2695	CANR	3	0708.5	0710.5	5	7.0	3.0		
	1420	CANR	3	0709	0710.5	4.5	4.0	1.0		
	29	UPIC	45	1545.5	1546	1.5				

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JULY 1973

JUL. 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
	29	UPIC	45	1731	1732	2				
	4995	CANR	45	1857.5	1900	4	13.0	5.0		
	1420	CANR	45	1858.5	1900.5	4.5	4.0	1.0		
	2695	CANR	45	1859	1901	4	6.0	2.0		
	245	BOUL	42	1909	2155	199			2	
22	29	UPIC	45	0958	0959	1.5				
23	606	MANI	40	0118.3	0143.7	36.4	23.8	6.1		
	2000	TYKW	1	0204	0205.4	7	2.0	1.0		
	1500	BERL	46	1100	1101.5	2	11.0	2.5		
	3000	BERL	1	1101	1101.6	1	2.4			
	2800	OTTA	24	1228		13	1.4			
	2800	OTTA	20	1300	1330	100	1.4	0.7		
	930	BORD	5	1439	1445	57	12.0	6.0		
	1420	CANR	21	1451	1455.5	28.5	4.0	1.0		
	2800	OTTA	27	1453		28	1.0	0.8		
	1420	BOUL	3	1508	1511.5	6.5	2.0	1.0		
24	100	HIRA	45	0517.5	0519	2.5	160.0	50.0		
	930	BORD	5	1441	1441.1	1	9.0	1.0		
	18	MCMA	6	1649	1651	4			1	
	18	BOUL	6	1655	1657	3			1	
	18	BOUL	6	1803	1805	3			1	
	18	MCMA	6	1803	1804	2			1	
	18	BOUL	6	1822	1823	2			1	
	18	BOUL	6	1836	1841	6			1	
	2695	BOUL	8	2226	2226.5	1.5	28.0	10.0		
	2695	BOUL	8	2229	2229.5	1	10.0	3.0		
	2695	BOUL	3	2234	2234.5	1	5.0	2.0		
25	18	MCMA	6	1248	1250	2			1	
	18	MCMA	6	1531	1533	3			1	
26	2695	PENT	2	0000.9	0001.8	2	2.4	1.2		
	2695	BOUL	3	0001.5	0002.5	1.5	3.0	1.0		
	1420	BOUL	8	0001	0002	1.5	3.0	1.0		
	18	MCMA	6	1254	1256	2			1	
	7000	SAOP	32	1736.7		21.6	-4.5			
	7000	SAOP	22	1758.3		47.2	4.5			
	1420	CANR	45	1925	1928	4	12.0	4.0		
	4995	CANR	45	1926.5	1928	2.5	22.0	9.0		
	2695	CANR	45	1926	1926.5	3	12.0	4.0		
	2695	CANR	45	1926	1928	3	12.0	4.0		
	245	BOUL	41	2150	2156	17			1	
	245	BOUL	41	2254	2257	7			2	
27	2695	BOUL	3	0127	0127.5	1.5	3.0	1.0		
	536	ONDR	5	0807.5	0807.5	.5	60.0			
	221	ABST	7	0826.2	0826.5	.5	23.0			
	260	ONDR	5	0827	0827	.5	40.0			
	408	TRST	41	0954.4	0955.3	2.1	33.0			
	260	ONDR	5	0956	0956	.5	20.0			
	2800	OTTA	20	1050 E	1105	75 D	2.2			
	204	KIEV	6	1440.7	1441.6	4.7	24.0			
	204	KIEV	6	1503.5	1506	5.5	38.0			
	2800	OTTA	26	1530		100	1.8			
28	2695	PENT	1	0149.8	0150	4	2.0	0.7		
	204	KIEV	42	0730		285	25.0	4.0		
	260	ONDR	41	0900	1135.5	310	95.0			
	221	ABST	7	1037.2	1037.8	.8	19.0			
	245	SGMR	6	1557.2	1600	8.3	17.3	7.2		
	7000	SAOP	20	1840		50.4	6.4			
	245	BOUL	42	1941	2228	210			2	
	15400	SGMR	3	2112.2	2112.3	.2	28.6	10.4		
	8800	SGMR	3	2112.2	2112.3	.3	18.5	6.8		
	4995	SGMR	1	2112.3	2112.4	.3	5.6	2.8		
	2695	SGMR	1	2112.3	2112.4	.2	3.2	1.6		
	1415	SGMR	1	2112.3	2112.4	.2	2.5	1.2		
	606	SGMR	1	2112.3	2112.4	.2	1.9	.9		
	245	SGMR	6	2227.5	2228.1	3.8	87.0	34.4		
29	18	BOUL	6	0051	0056	5			1	
	225	HARS	5	0556	0556.5	1	100.0	30.0		
	100	HIRA	45	0618.3	0618.6	1.5	110.0	40.0		
	225	HARS	5	0636	0636.5	1	100.0	40.0		
	29	UPIC	45	0724.5	0725	3.5				
	210	IZMI	6	0731.8	0732	.4	20.0			
	29	UPIC	45	0732	0732	.5				
	23	POTS	5	0732	0732.1	.7	23000.0	8000.0		
	204	KIEV	6	0804.5	0805.2	3	53.0			
	29	UPIC	45	0804.5	0805.5	1.5				
	221	ABST	41	0805	0805.5	1.2	27.0	5.0		
	100	HIRA	45	0805	0805.3	1.5	95.0	40.0		
	23	POTS	45	0805.4	0805.9	1.1	2000.0	500.0		
	2695	BOUL	45	1305	1335.5	251.5	79.0	19.0		
	930	BORD	5	1310	1334	50	178.0	58.0		
	808	ONDR	45	1310	1334	70	190.0			
	536	ONDR	45	1310	1338	80	85.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JULY 1973

JUL. 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
29	260	ONDR	45	1310	1408	100	40.0			
	245	SGMR	6	1310.4	1334.8	151.5	22.4	5.6		
	245	SGMR	6	1310.4	1334.8	151.5	22.4	5.6		
	1420	CANR	45	1311	1335	234	242.0	56.0		
	410	SGMR	6	1311.6	1333.3	109	30.3	7.6		
	2800	OTTA	25	1312		335	5.8			
	2800	OTTA	21	1312	1350	335	55.0	16.8		
	1500	BERL	46	1312.5	1333.5	168 D	276.0			
	1420	BOUL	45	1312.5	1336	186	104.0	26.0		
	1415	SGMR	45	1313.1	1325	35.5	139.6	51.5		
	1415	SGMR	45		1334.1		206.0			
	1415	SGMR	29	1348.6	1348.6	161.4U	34.1	17.0		
	1415	ATHN	45	1313.2	1333.4	36.8	196.6	49.6		
	1415	ATHN	29	1350	1350	122 U	26.0	13.0U		
	960	PENN	45	1313	1333.2	39.4	105.0	44.3		
	960	PENN	29	1352.4	1352.4	143	10.0	3.3		
	510	POTS	45	1313	1338	65 U	20.0	5.0		
	234	POTS	45	1313 U	1325 U	77 U	15.0	5.0		
	3000	BERL	46	1314.5	1333.5	166 D	119.0			
	2695	CANR	45	1314.5	1335	181.5	136.0	30.0		
	2700	PENN	45	1315.4	1334	34	195.0	90.0		
	2700	PENN	29	1349.4	1349.4	550 D	78.2			
	2695	ATHN	45	1315.1	1333.7	30	139.2	59.0		
	2695	ATHN	29	1345.1	1345.1	127 U	57.3	29.3U		
	606	SGMR	22	1315.7	1338.5	69.5	74.3	18.5		
	204	KIEV	44	1315	1320	55	38.0	5.0		
	8800	ATHN	22	1316.9	1335.7	130.3	63.6	31.0		
	4995	BOUL	45	1316	1334.5	193.5	95.0	22.0		
	18	BOUL	41	1316	1320	11			2	
	9400	HUAN	23	1317.3	1424.3	211.1	40.6	14.0		
	7000	SAOP	21	1317.7	1334.2	360 E	123.4			END DURING CALIBRATION
	7000	SAOP	20	1317.7		360	121.1			
	4995	SGMR	22	1317	1334.7	192.2	76.4	19.1		
	4995	ATHN	22	1317	1334.6	155 U	76.4	33.5U		
	15400	SGMR	20	1318.7	1358.4	157.7	56.8	16.2		
	2695	SGMR	45	1318.7	1324.7	22.4	78.1	36.3		
	2695	SGMR	45		1333.6		145.0			
	2695	SGMR	29	1341.1	1341.1	168.9U	75.5	38.2		
	10700	PENN	20	1319	1356	287	50.0	18.0		
	9500	BERL	22	1319	1351	161 D	51.0			
	8800	SGMR	22	1319.1	1351.1	133.1	64.0	16.0		
	4995	CANR	45	1319.5	1334.5	137.5	52.0	17.0		
	2800	OTTA	46	1319	1334	30	98.0	33.0		
	2800	OTTA		1319	1325	10	53.0			
	2800	OTTA		1329	1334	20	98.0			
	7000	SAOP	4	1320.3	1320.8	1.2	10.0	5.6		
	23	POTS	45	1321.5U	1328 U	35 U	250000.0	1000.0		
	7000	SAOP	4	1322.8	1323.3	1.2	11.1	5.7		
	29	UPIC	45	1322		33				
	18	MCMA	41	1322		33			3	
	7000	SAOP	4	1329.8	1334.2	13.6	47.8	22.2		
	9400	HUAN	20	1330.8	1356.5	53	33.8	24.1		
	29	UPIC	45	1432	1433	1.5				
	2800	OTTA	20	2112	2130	33	1.4	0.7		
30	18	BOUL	6	1900	1903	4			1	
	2800	OTTA	20	2031	2032	10	1.2	0.6		
	2695	PENT	1	2323	2326	6	1.0	0.5		
31	221	ABST	7	0800	0800.2	.5	33.0			
	2800	OTTA	27	1055		60	1.2			
	2800	OTTA	27	1230		315	1.4			

Observatories:

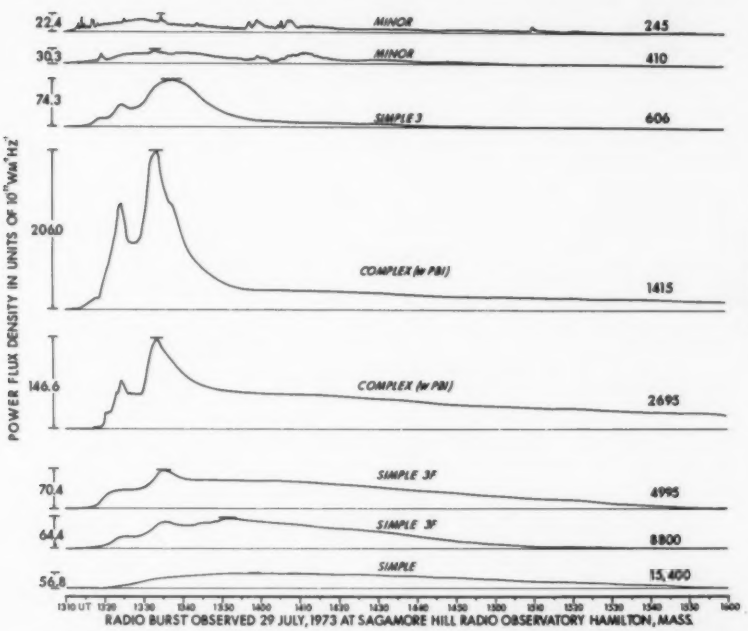
ABST = Abastumani
BERL = Berlin-Adlershof
BORD = Bordeaux
BOUL = Boulder
CANR = Canary Islands
CRIM = Simferopol
CRON = Carnarvon
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = Moscow IZMIRAN
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
ONDR = Ondrejov
OTTA = Ottawa ARO
PENN = Penn. State Univ.
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore Hill
TRST = Trieste
TYKW = Toyokawa
UPIC = Upice
VORO = Voroshilov

Explanation of Type Code:

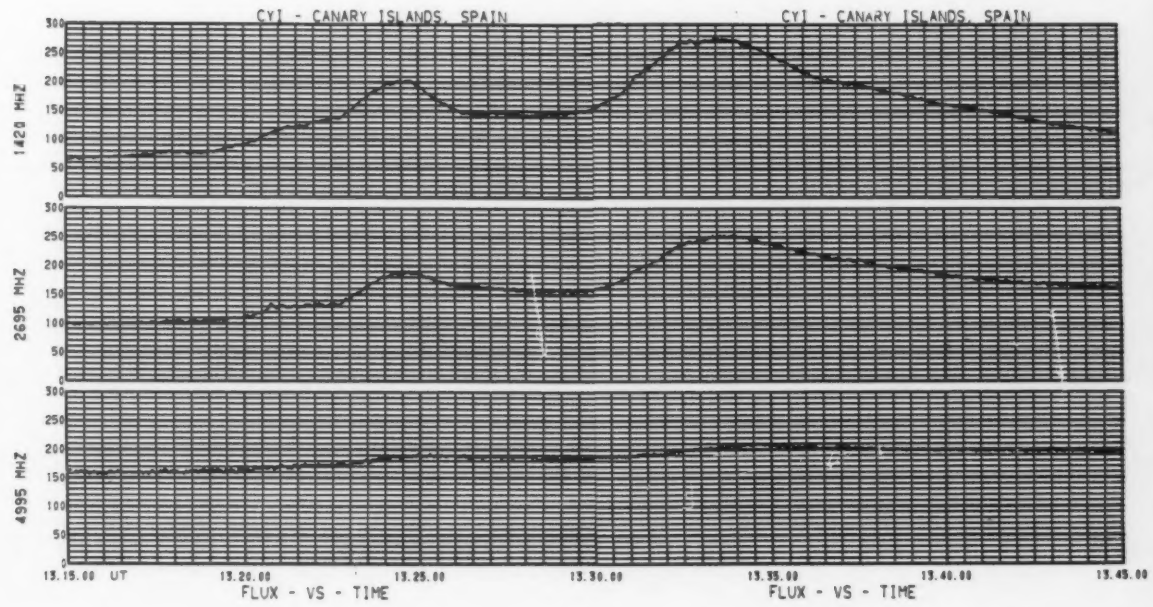
1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

SELECTED SOLAR NOISE BURSTS

29 JULY 1973

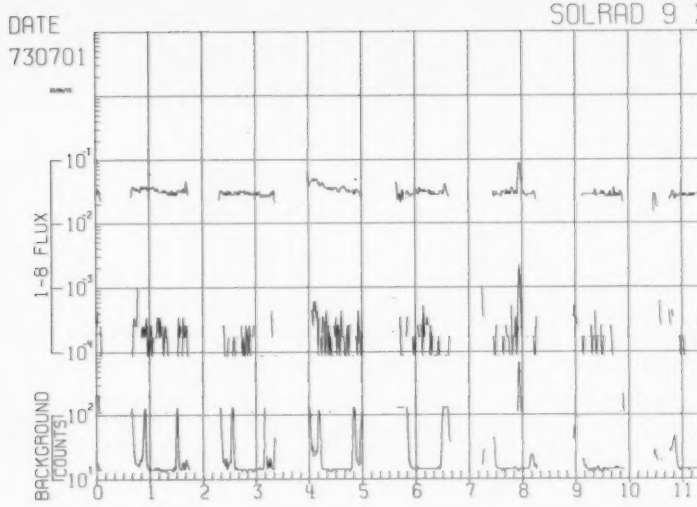


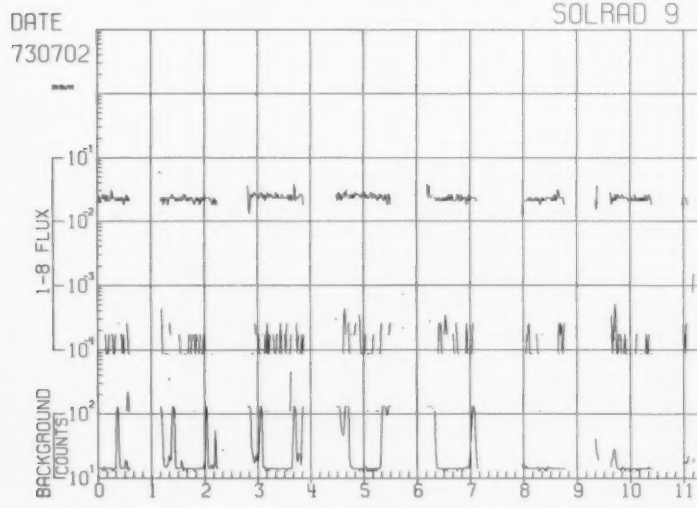
RADIO BURST OBSERVED 29 JULY, 1973 AT SAGAMORE HILL RADIO OBSERVATORY HAMILTON, MASS.



SOLAR X-RAYS MEASURED BY SA

JU



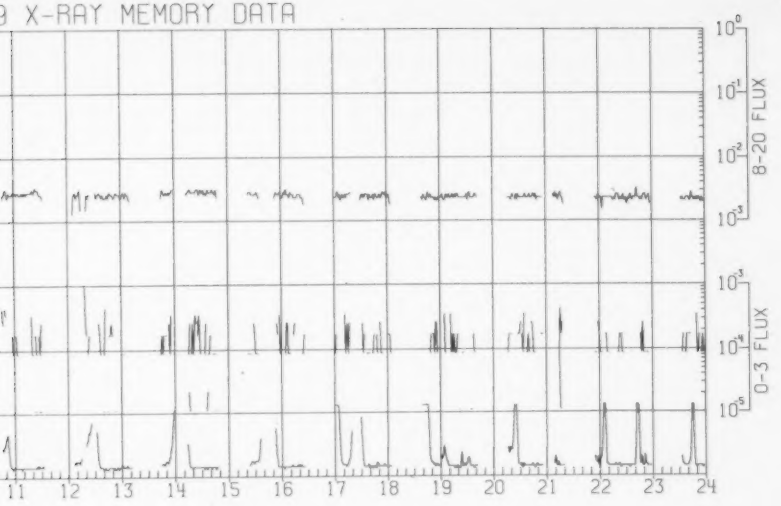


SATELLITE SOLRAD 9 - EXPLORER 37

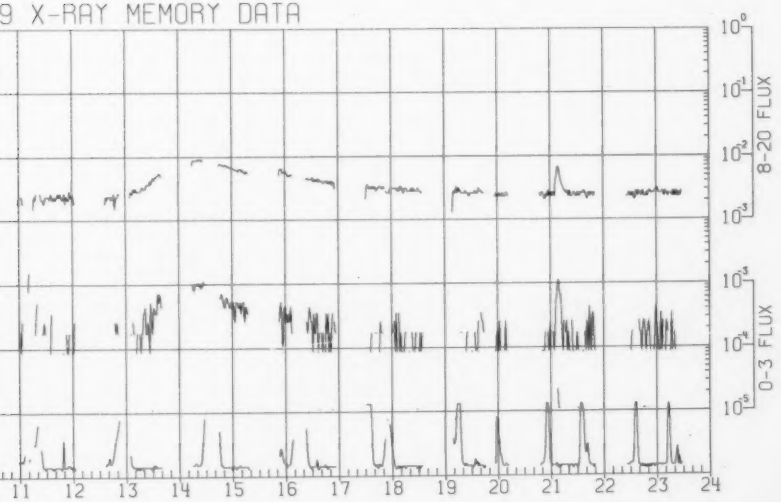
JULY 1973

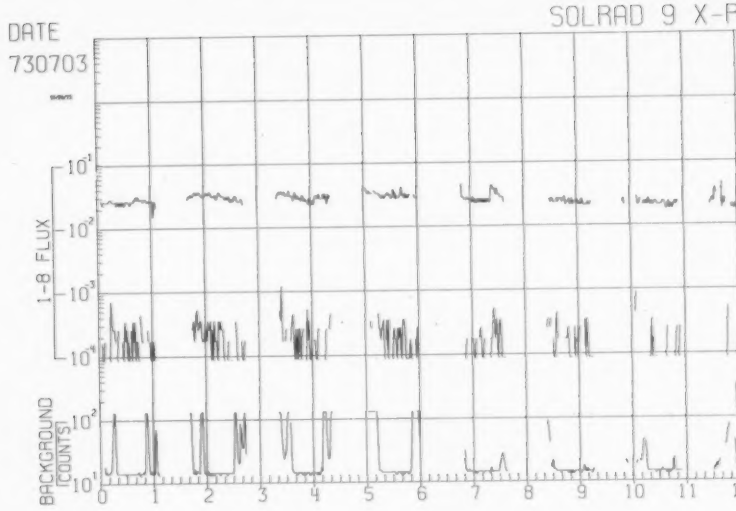
26 Jul 73

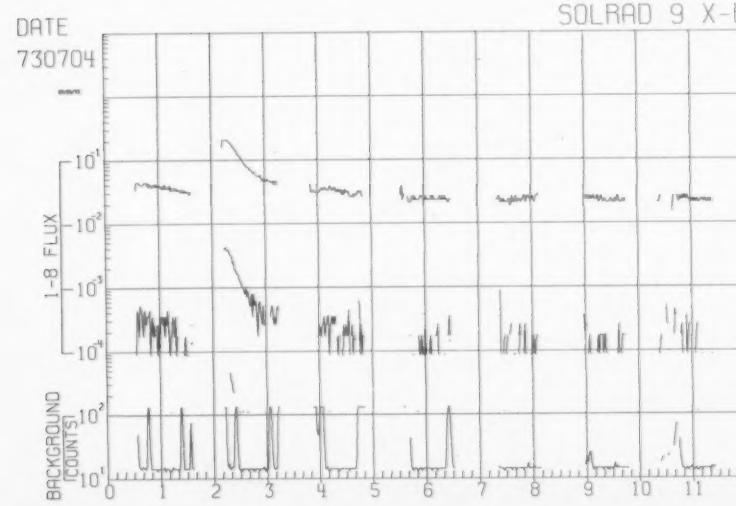
9 X-RAY MEMORY DATA



9 X-RAY MEMORY DATA




DATE
730703
SOLRAD 9 X-R
1-8 FLUX
BACKGROUND (COUNTS)
0 1 2 3 4 5 6 7 8 9 10 11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-RAY MEMORY DATA

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10^{-2}
10^{-3}
8-20 FLUX

10^{3}
10^{4}
10^{5}
0-3 FLUX

12 13 14 15 16 17 18 19 20 21 22 23 24

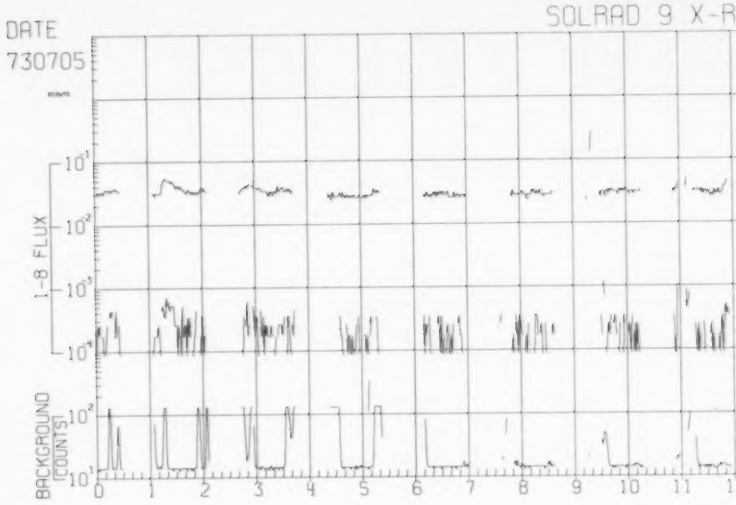
X-RAY MEMORY DATA

10^{0}
10^{-1}
10^{-2}
10^{-3}
8-20 FLUX

10^{3}
10^{4}
10^{5}
0-3 FLUX

12 13 14 15 16 17 18 19 20 21 22 23 24

27
Jul 73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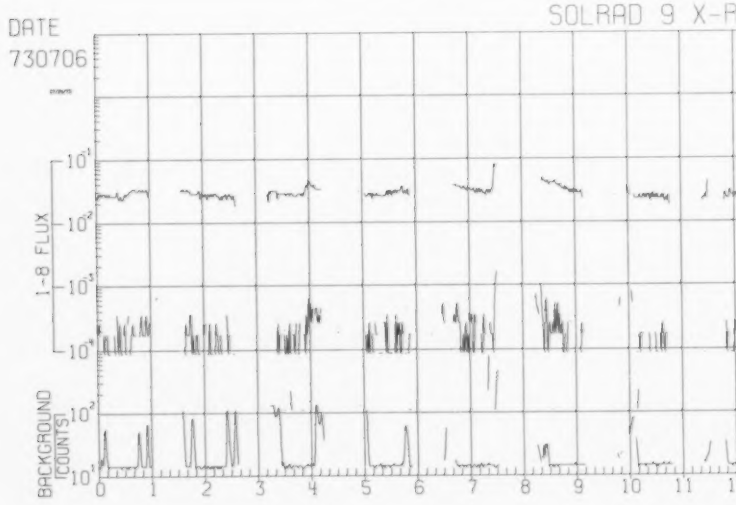
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1-8 FLUX
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0 1 2 3 4 5 6 7 8 9 10 11

28
Jul 73

-RAY MEMORY DATA

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10^{-1}
10^{-2}
10^{-3}
8-20 FLUX
10^{-3}
10^{-4}
10^{-5}
0-3 FLUX

12 13 14 15 16 17 18 19 20 21 22 23 24

-RAY MEMORY DATA

10^{0}
10^{-1}
10^{-2}
10^{-3}
8-20 FLUX
10^{-3}
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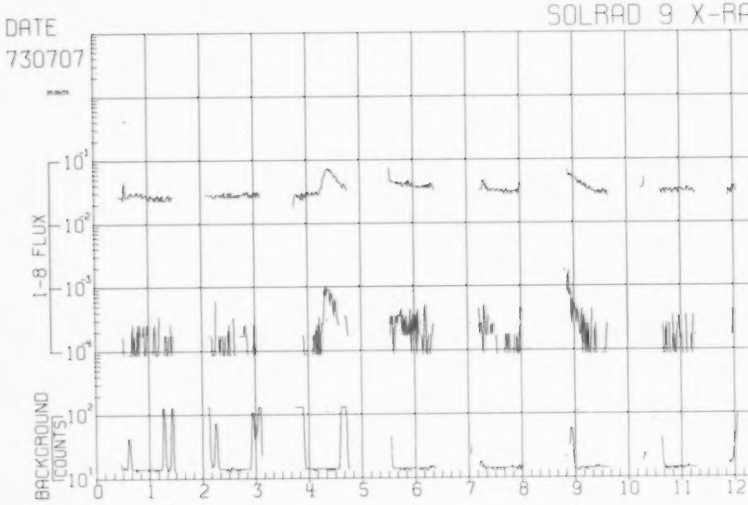
0-3 FLUX

12 13 14 15 16 17 18 19 20 21 22 23 24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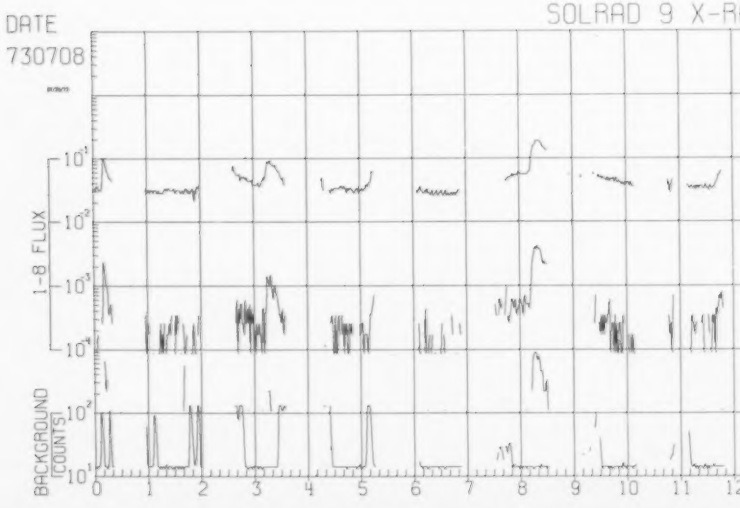
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RAY MEMORY DATA

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10^{2}
10^{3}
8-20 FLUX

10^{3}
10^{4}
10^{5}
0-3 FLUX

12 13 14 15 16 17 18 19 20 21 22 23 24

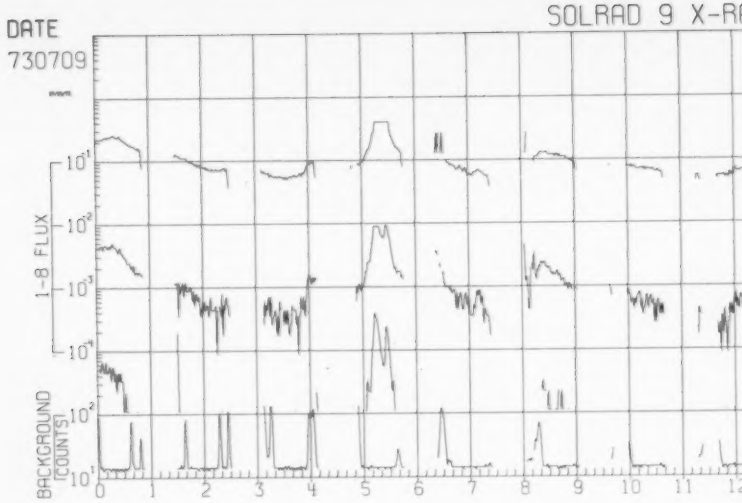
-RAY MEMORY DATA

10^{0}
10^{1}
10^{2}
10^{3}
8-20 FLUX

10^{3}
10^{4}
10^{5}
0-3 FLUX

12 13 14 15 16 17 18 19 20 21 22 23 24

29
Jul 73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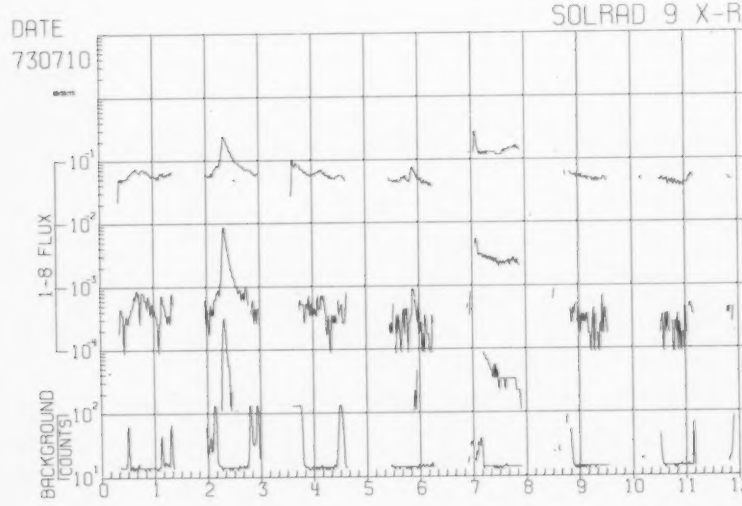
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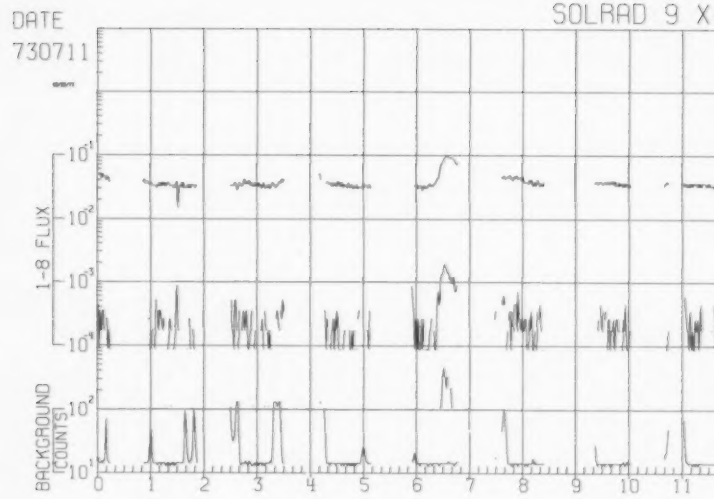
30 Jul 73

-RAY MEMORY DATA

-RAY MEMORY DATA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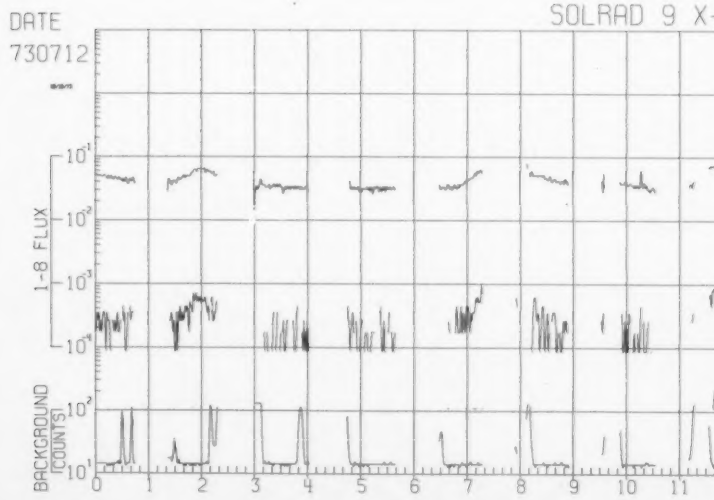
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(COUNTS)
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X-RAY MEMORY DATA

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10^{1}
10^{2}
10^{3}
8-20 FLUX

10^{3}
10^{4}
10^{5}
0-3 FLUX

1 12 13 14 15 16 17 18 19 20 21 22 23 24

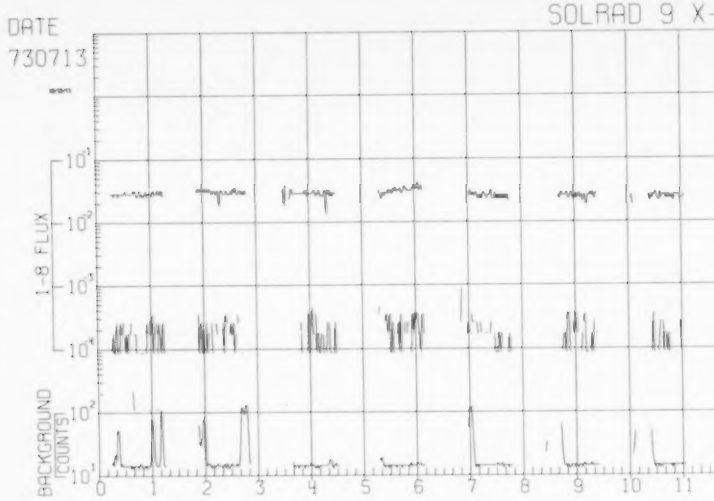
X-RAY MEMORY DATA

10^{0}
10^{1}
10^{2}
10^{3}
8-20 FLUX

10^{3}
10^{4}
10^{5}
0-3 FLUX

1 12 13 14 15 16 17 18 19 20 21 22 23 24

31
Jul 73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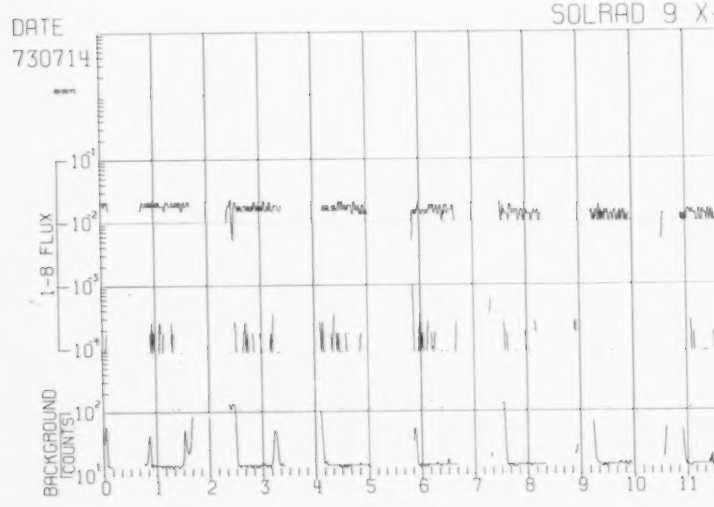
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1-8 FLUX
BACKGROUND
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32
Jul 73

X-RAY MEMORY DATA

8-20 FLUX

0-3 FLUX

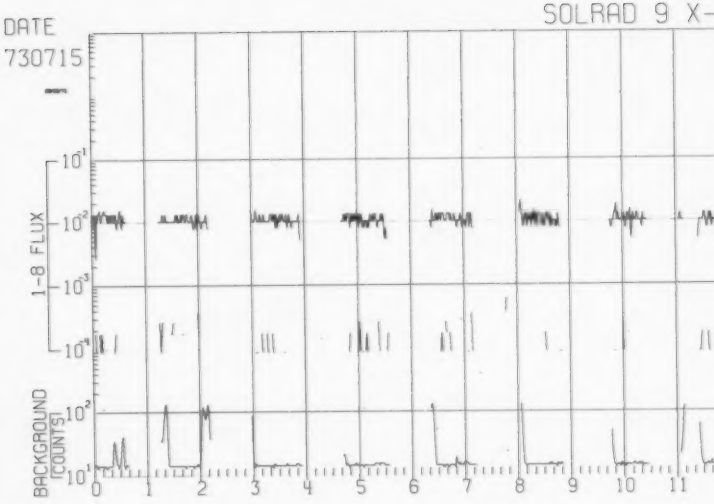
1 12 13 14 15 16 17 18 19 20 21 22 23 24

X-RAY MEMORY DATA

8-20 FLUX

0-3 FLUX

1 12 13 14 15 16 17 18 19 20 21 22 23 24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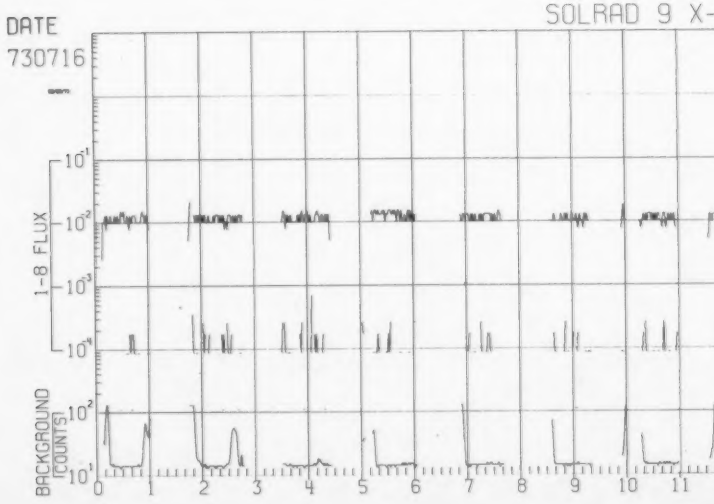
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730716
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BACKGROUND (COUNTS)
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X-RAY MEMORY DATA

X-RAY MEMORY DATA

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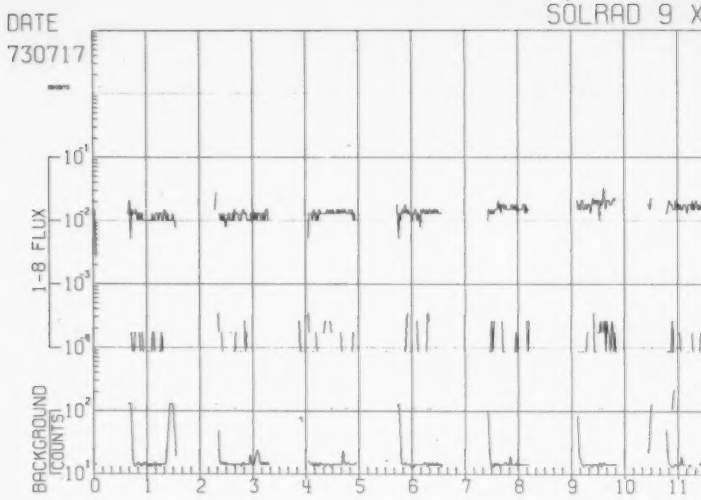
Jul 73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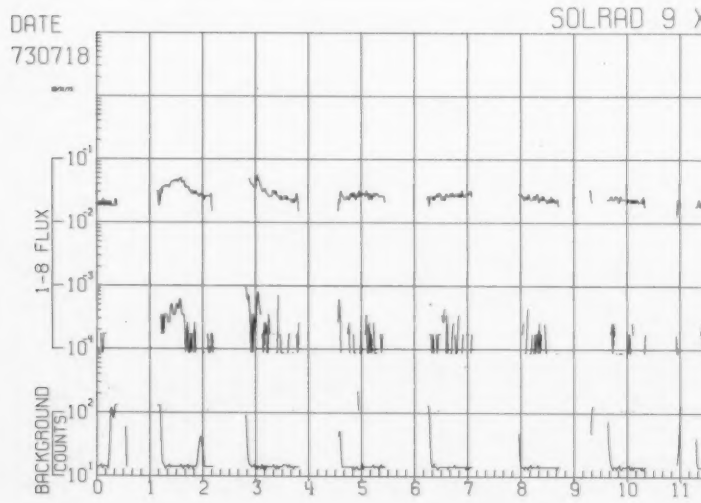
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1-8 FLUX
BACKGROUND (COUNTS)
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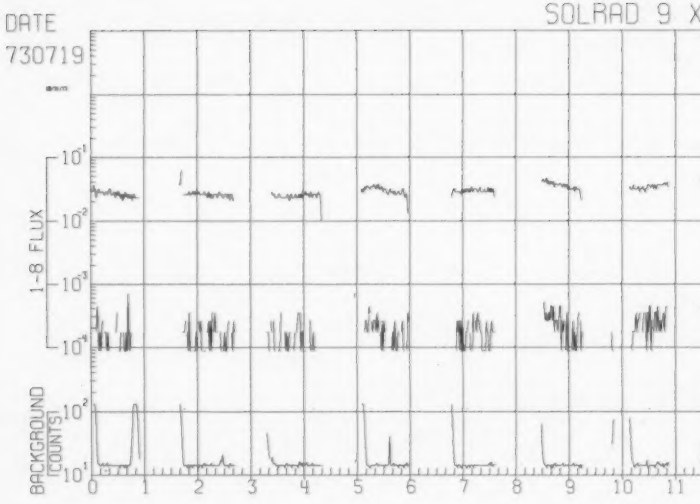
34
Jul 73

X-RAY MEMORY DATA

X-RAY MEMORY DATA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1-8 FLUX
BACKGROUND
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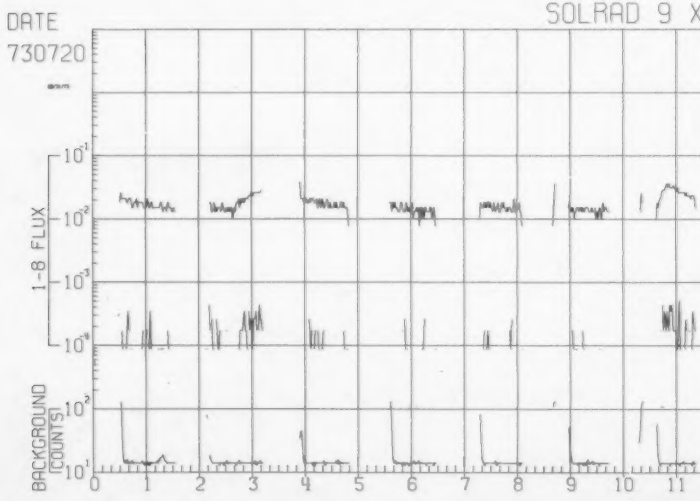
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1-8 FLUX
BACKGROUND
[COUNTS]
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X-RAY MEMORY DATA

10^{0}
10^{-1}
10^{-2}
10^{-3}
8-20 FLUX

10^{-3}
10^{-4}
10^{-5}
0-3 FLUX

11 12 13 14 15 16 17 18 19 20 21 22 23 24

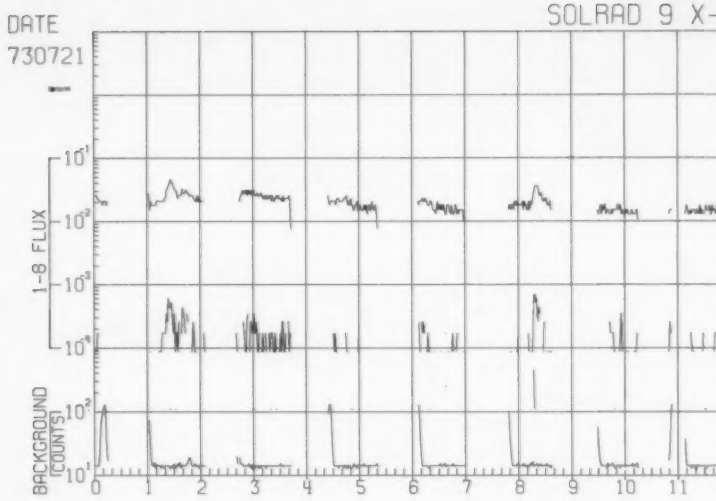
X-RAY MEMORY DATA

10^{0}
10^{-1}
10^{-2}
10^{-3}
8-20 FLUX

10^{-3}
10^{-4}
10^{-5}
0-3 FLUX

11 12 13 14 15 16 17 18 19 20 21 22 23 24

35
Jul 73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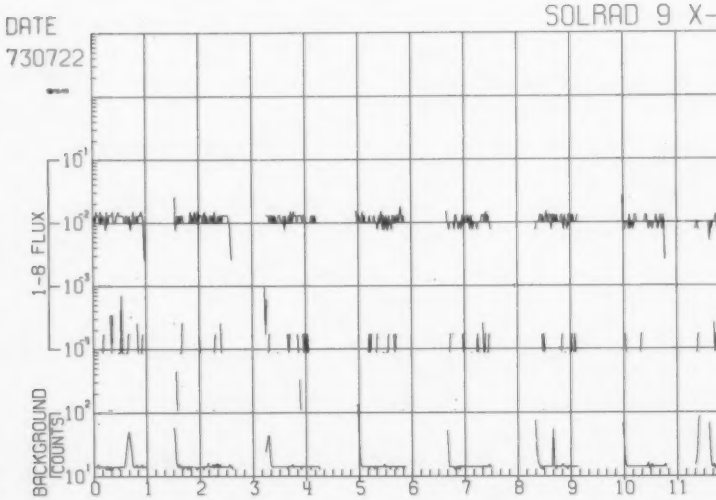

DATE
730722
SOLRAD 9 X-
1-8 FLUX
BACKGROUND [COUNTS]
0 1 2 3 4 5 6 7 8 9 10 11

36
Jul 73

X-RAY MEMORY DATA

8-20 FLUX

0-3 FLUX

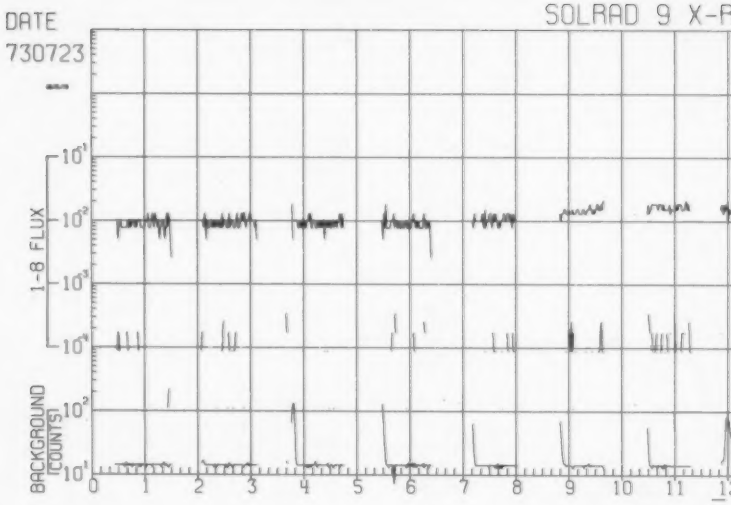
12 13 14 15 16 17 18 19 20 21 22 23 24

X-RAY MEMORY DATA

8-20 FLUX

0-3 FLUX

12 13 14 15 16 17 18 19 20 21 22 23 24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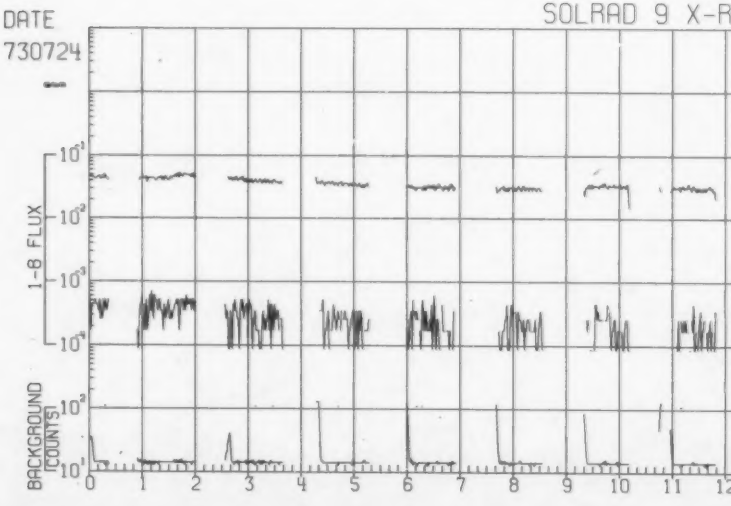
DATE
730724
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BACKGROUND (COUNTS)
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-RAY MEMORY DATA

-RAY MEMORY DATA

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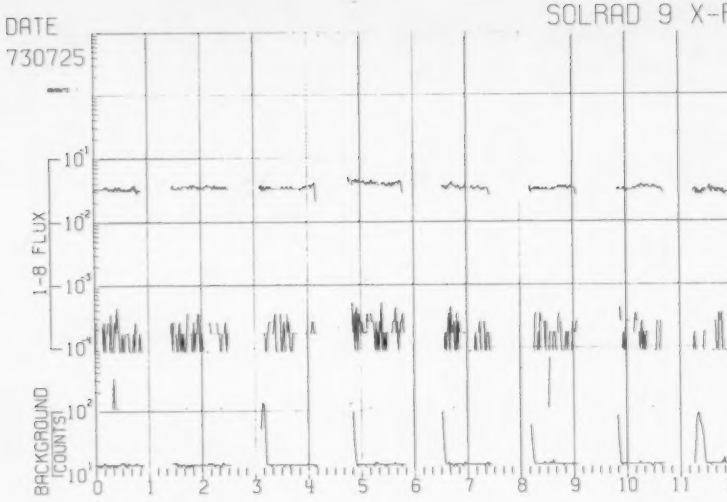
Jul 73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10^{4}
BACKGROUND
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10^{1}
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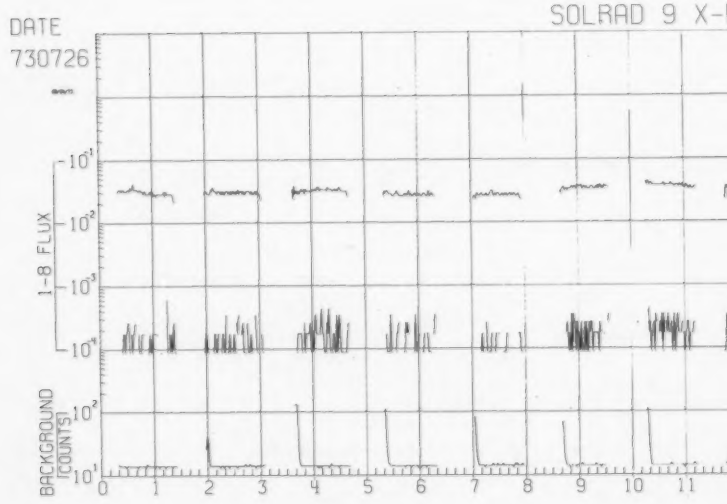
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10^{2}
10^{3}
10^{4}
BACKGROUND
[COUNTS]
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10^{1}
0 1 2 3 4 5 6 7 8 9 10 11

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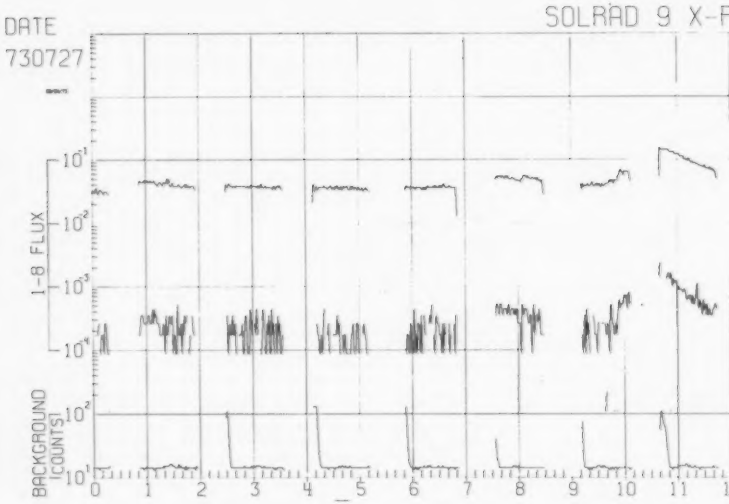
Jul 73

X-RAY MEMORY DATA

X-RAY MEMORY DATA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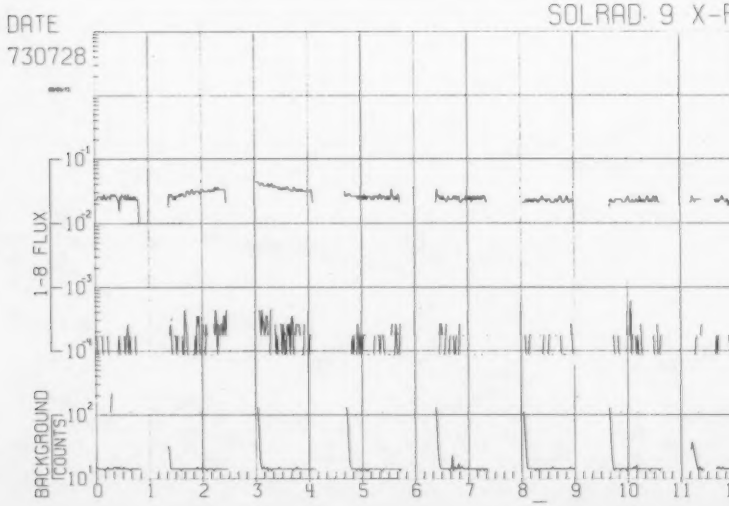
DATE
730728
SOLRAD 9 X-R
1-8 FLUX
BACKGROUND (COUNTS)
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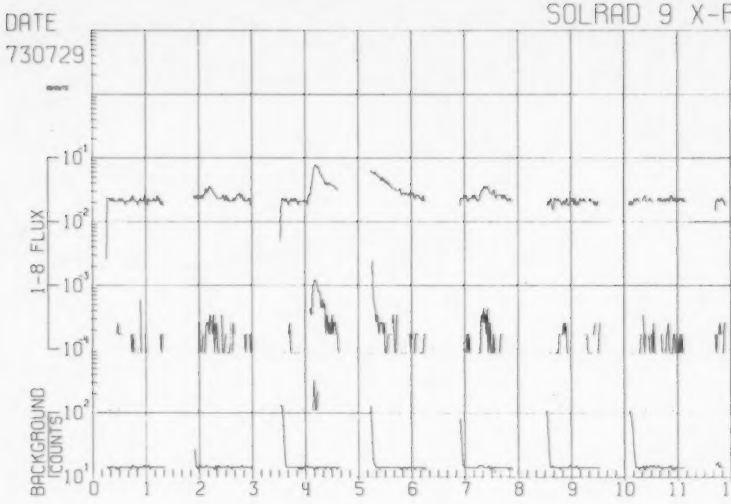
X-RAY MEMORY DATA

X-RAY MEMORY DATA

39
Jul 73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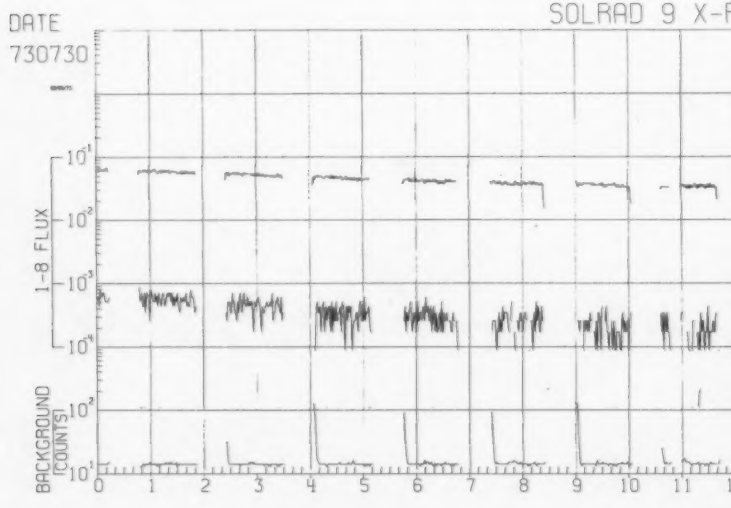
DATE
730730
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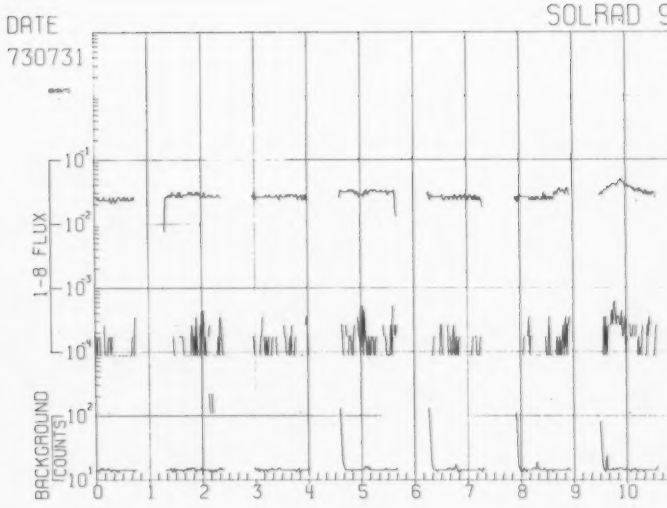
Jul 73

-RAY MEMORY DATA

X-RAY MEMORY DATA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1-8 FLUX
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10^{2}
10^{3}
10^{4}
BACKGROUND [COUNTS]
10^{2}
10^{1}
0 1 2 3 4 5 6 7 8 9 10

9 X-RAY MEMORY DATA
8-20 FLUX
0-3 FLUX
11
12
13
14
15
16
17
18
19
20
21
22
23
24

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JUNE 1973 DATA

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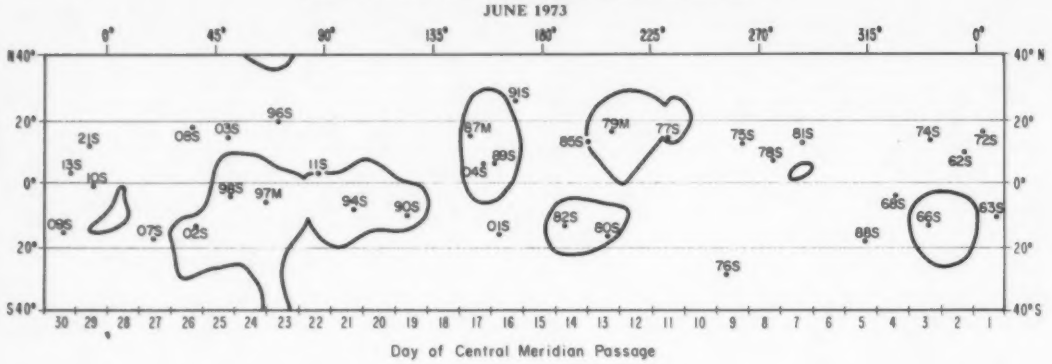
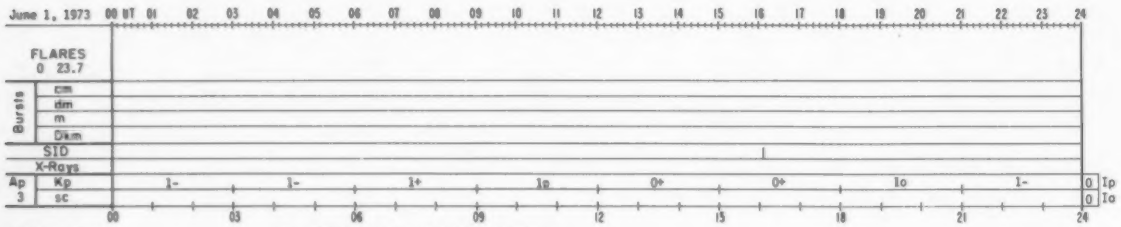
For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

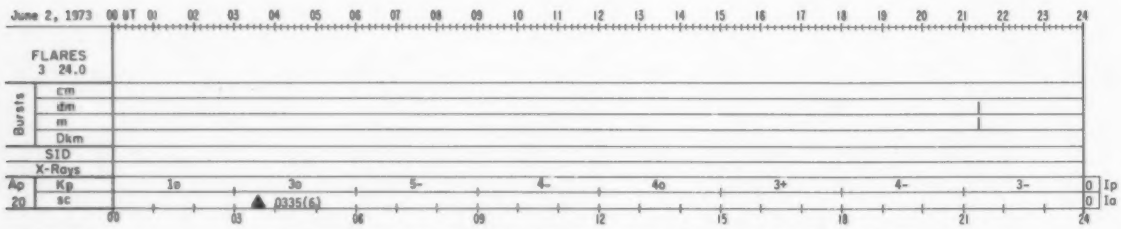
ABBREVIATED CALENDAR RECORD





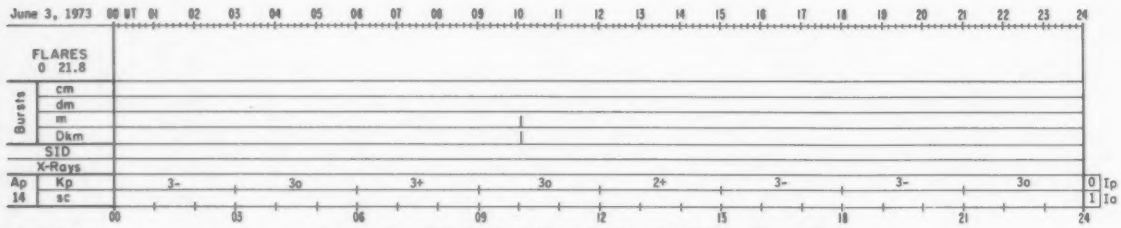
83 10 cm flux
8 Rz
CMP 12363 S11 (4) (19194) S15 (Bf)2
(12372) N17

One of five most magnetically quiet days.



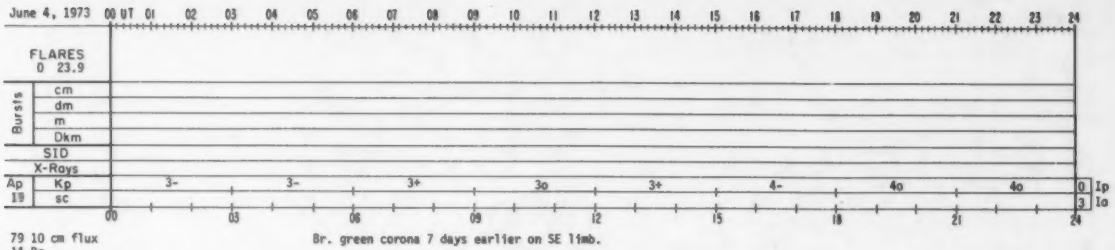
81 10 cm flux
8 Rz
CMP 12362 N10 (2)

No coronal data 7 days earlier on E. limb, moderately br. green corona 7 days later on SW limb.



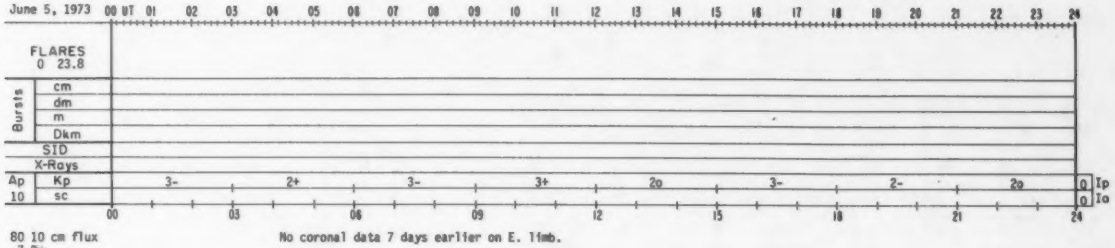
79 10 cm flux
16 Rz
CMP 12366 S13 (3) (19201) S13 (α)1
(12374) N14 (19196) N13 (Bf)1

Very br. green corona 7 days earlier on SE limb, moderately br. green corona 7 days later on W. limb.



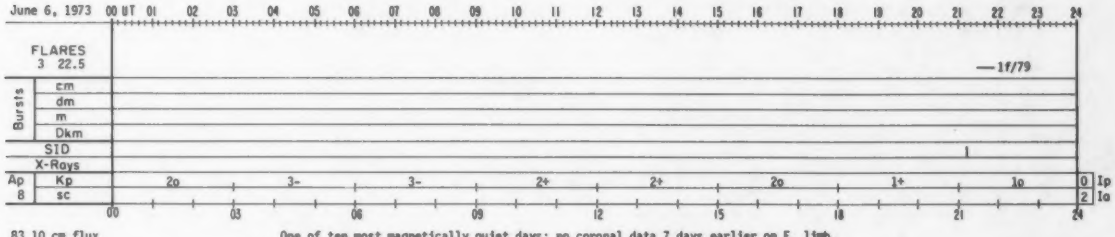
79 10 cm flux
14 Rz
CMP 12368 S04 (3)

Br. green corona 7 days earlier on SE limb.



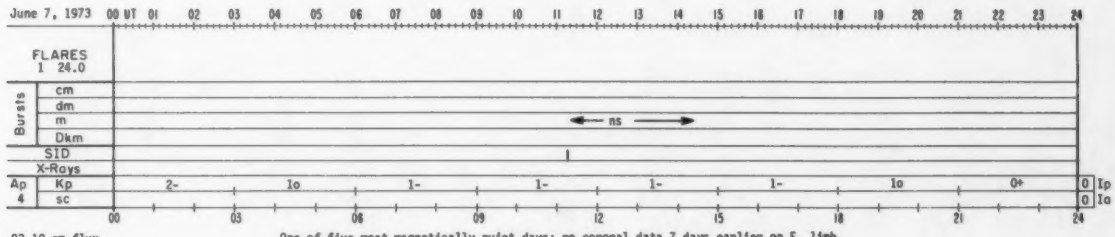
80 10 cm flux
7 Rz
CMP (12388) S18

No coronal data 7 days earlier on E. limb.



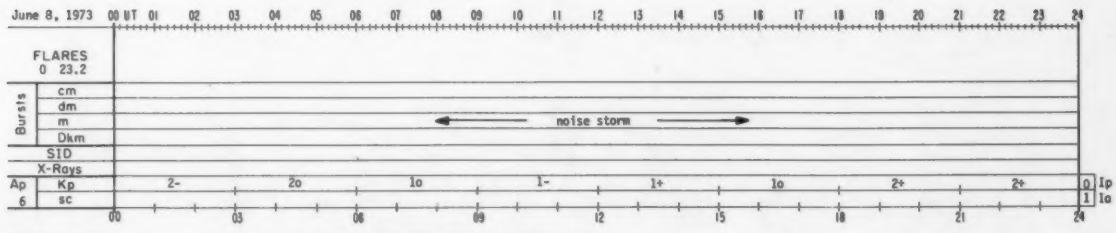
83 10 cm flux
16 Rz

One of ten most magnetically quiet days; no coronal data 7 days earlier on E. limb.



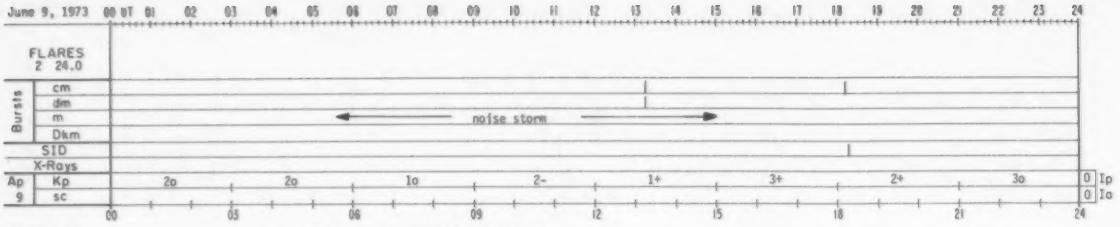
83 10 cm flux
37 Rz
CMP 12381 N13 (19200) N13 (βp)2

One of five most magnetically quiet days; no coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



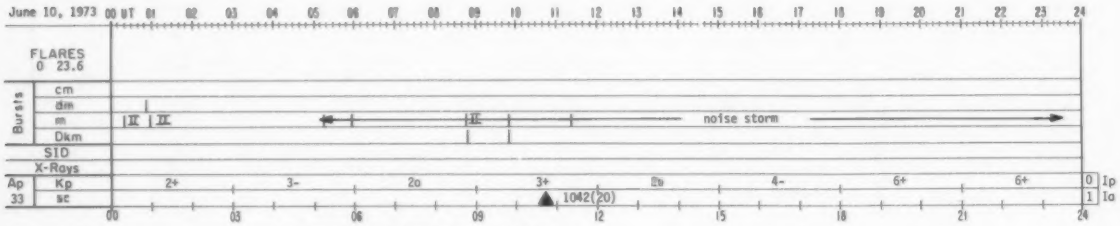
85 10 cm flux
34 Rz
CMP 12378 N07 19197 N05 β CMP June 7

One of ten most magnetically quiet days.



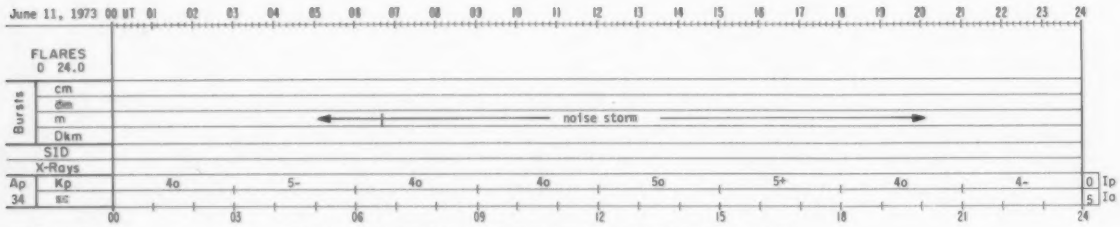
86 10 cm flux
28 Rz
CMP 12375 N13 19195 N13 (β)1
(12376) S29

One of ten most magnetically quiet days.



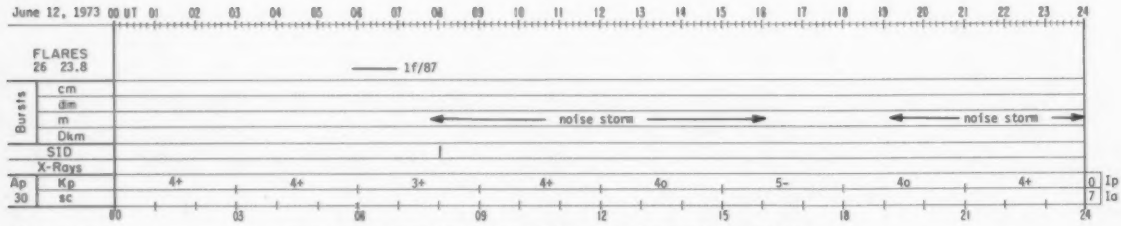
88 10 cm flux
35 Rz

No coronal data 7 days later on W. limb.



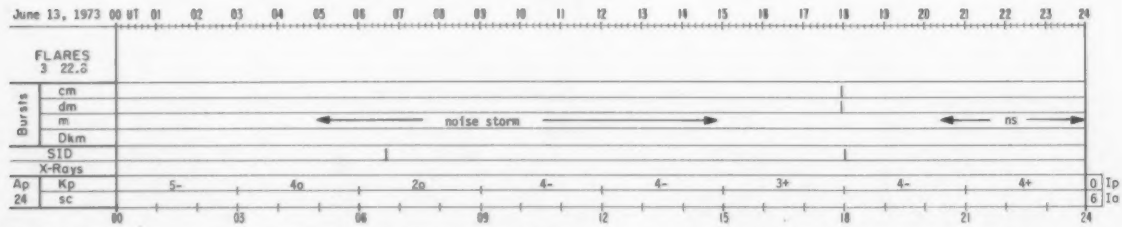
90 10 cm flux
60 Rz
CMP 12377 N15 (2) 19205 N16 (βp 2

One of five most magnetically disturbed days with moderate activity all day after the sc on June 10.



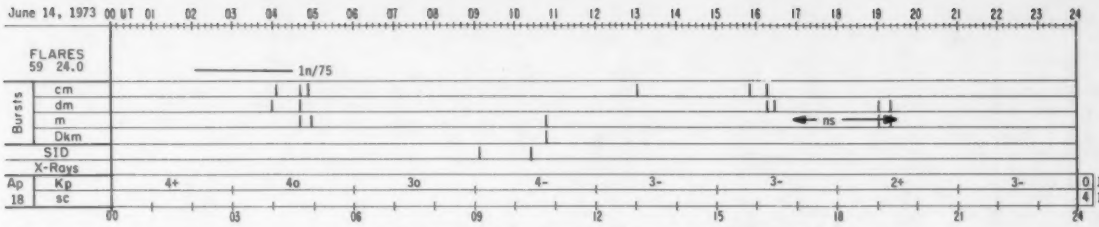
91 10 cm flux
58 Rz

One of five most magnetically disturbed days with moderate activity continuing; no coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



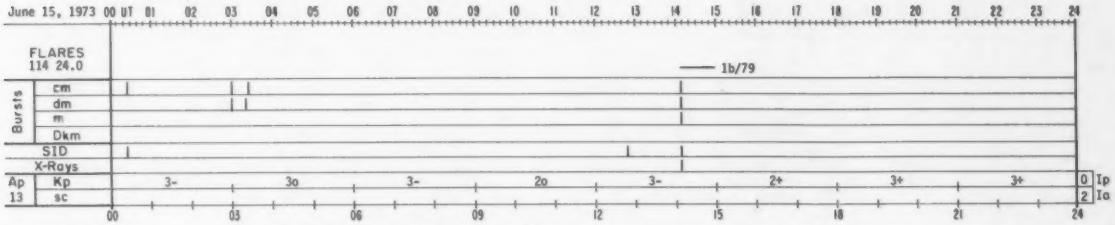
93 10 cm flux
52 Rz
CMP 12379 N17 19198 N16 (βp)4
12380 S17 (2) 19199 S15 (βp)3

No coronal data 7 days earlier on E. limb.



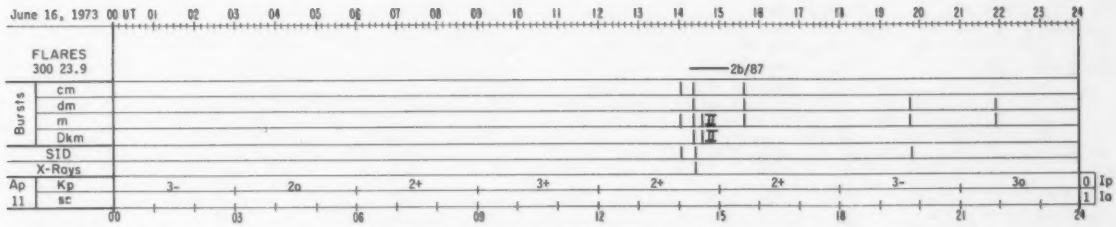
95 10 cm flux
51 Rz
CMP 12385 N13 (19202) N13 (βp)2
12382 S13 19203 S14 (βp)2
(19204) S17 (αf)2 CMP June 15
19206 S10 α

No coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



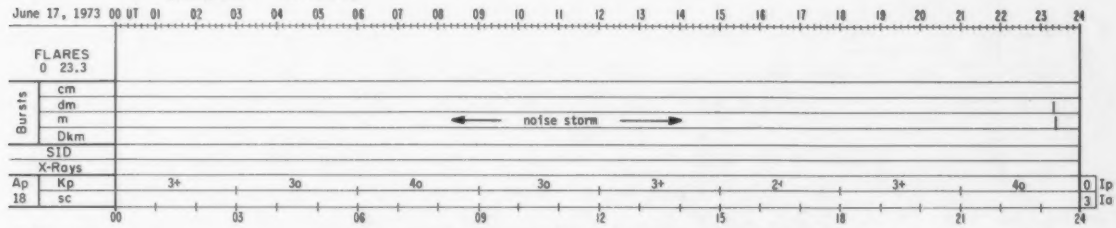
95 10 cm flux
46 Rz

No coronal data 7 days later on W. limb.



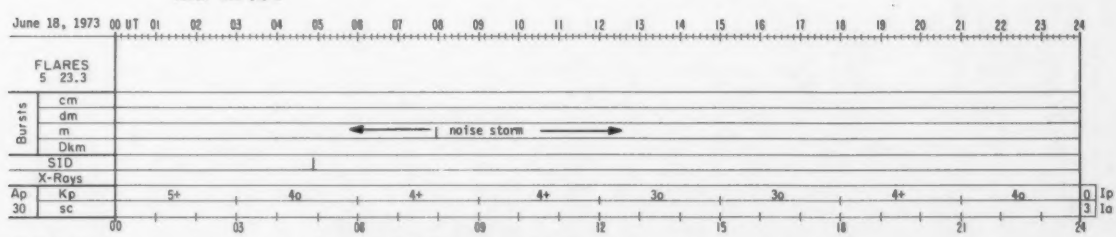
92 10 cm flux
41 Rz
CMP (12391) N26
(12401) S16
12389 N07 (5) (19208) N08 α
(19210) N15 CMP June 15

Moderately br. green corona 7 days earlier on NE limb.



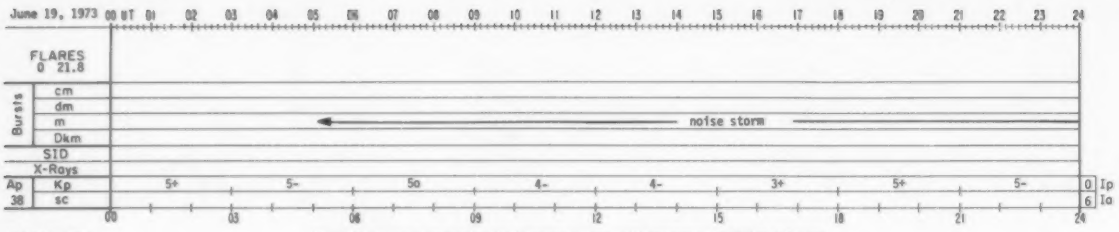
87 10 cm flux
34 Rz
CMP (12404) N07 (19216) N07 (αp)1
12387 N15 (5) 19207 N11 (βf)3
19209 N16 βp
19211 N15 (α) 2

Br. green corona 7 days later on NW limb, moderately br. green corona 7 days earlier on E. limb.



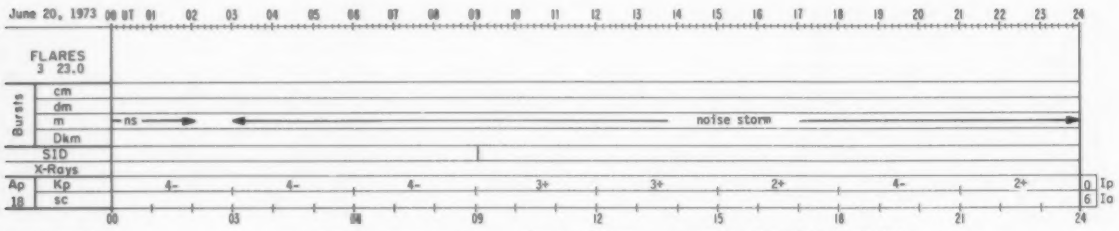
88 10 cm flux
18 Rz

No coronal data 7 days later on W. limb.



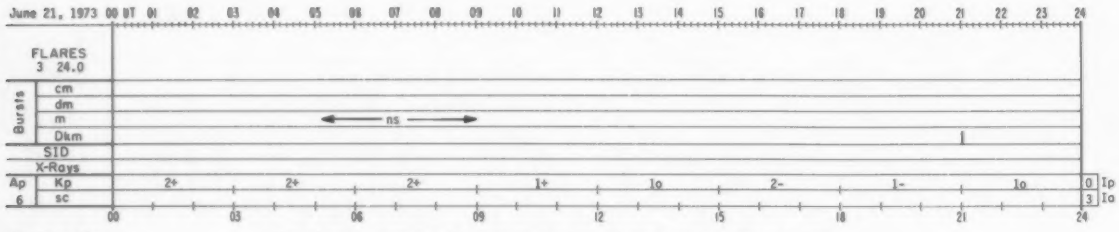
96 10 cm flux
38 Rz
CMP 12398 S10 19212 S10 (ap)1
S05

One of five most magnetically disturbed days with moderate activity all day; very br. green corona 7 days earlier on SE limb, moderately br. green corona 7 days later on W. limb.



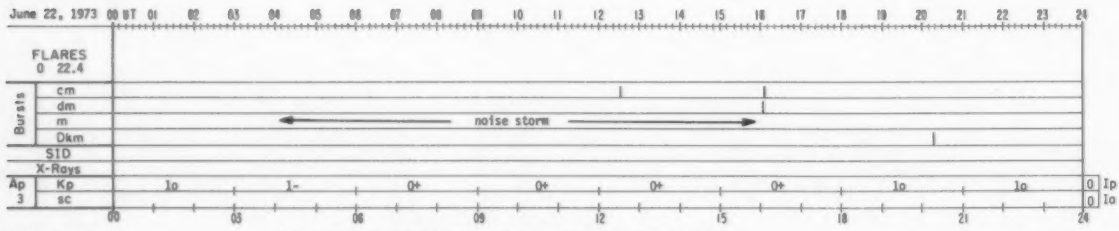
102 10 cm flux
46 Rz

Very br. green corona 7 days earlier on SE limb, no coronal data 7 days later on W. limb.



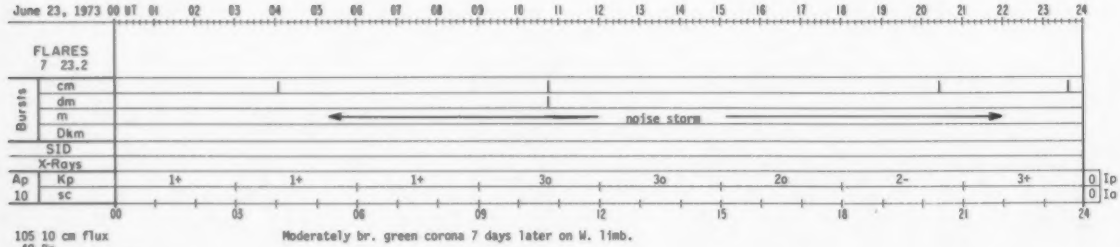
105 10 cm flux
75 Rz
CMP 12394 S08 (4)

One of ten most magnetically quiet days; no coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



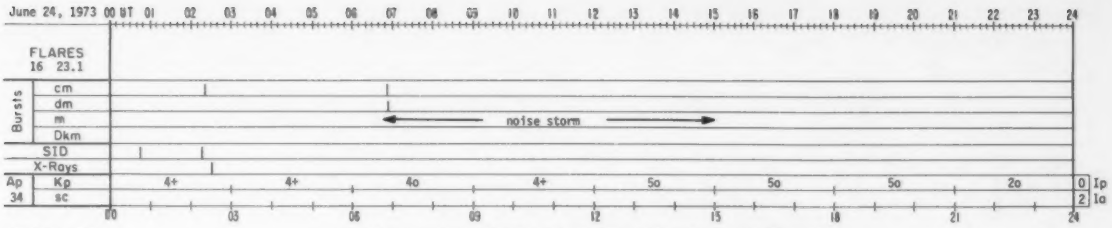
106 10 cm flux
61 Rz
CMP (12411) N04

One of five most magnetically quiet days, extremely quiet 0600-1800.



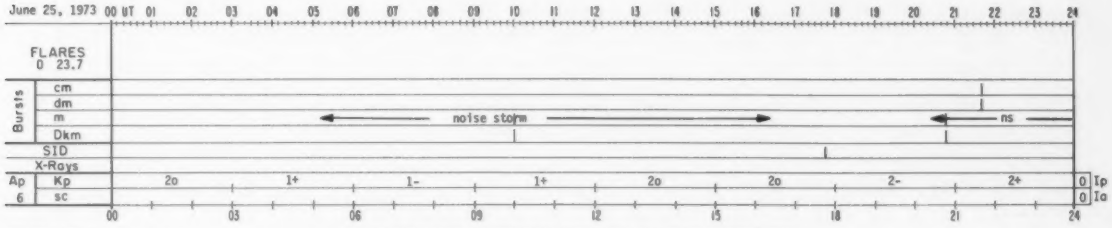
105 10 cm flux
48 Rz
CMP (12396) N20 (2)

Moderately br. green corona 7 days later on W. limb.



103 10 cm flux
48 Rz
CMP 12397 S06 19213 S07 (βp)5 CMP June 23

One of five most magnetically disturbed days with moderate activity to 2100; no coronal data 7 days earlier on E. limb, moderately br. green corona 7 days later on W. limb.

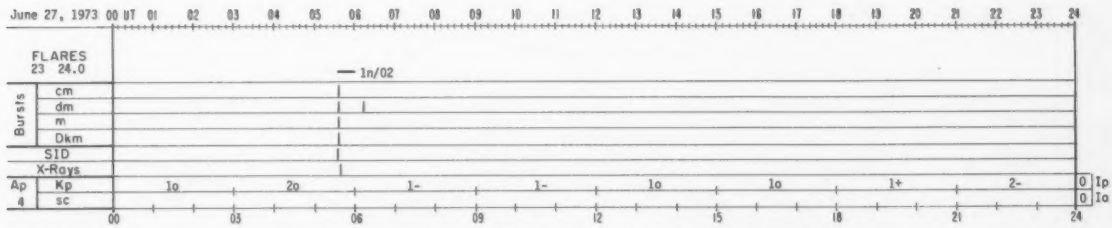


98 10 cm flux
47 Rz
CMP 12398 S04 19214 S03 (βp)4 CMP June 24
12403 N15 (4)

One of ten most magnetically quiet days; br. green corona 7 days later on W. limb.

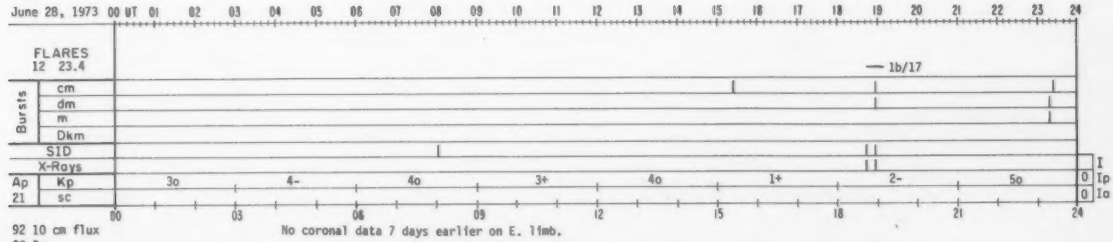
97 10 cm flux
43 Rz
CMP 12402 S13 19215 S12 βp
12408 N18

One of five most magnetically quiet days; no coronal data 7 days earlier on E. limb, moderately br. green corona 7 days later on W. limb.



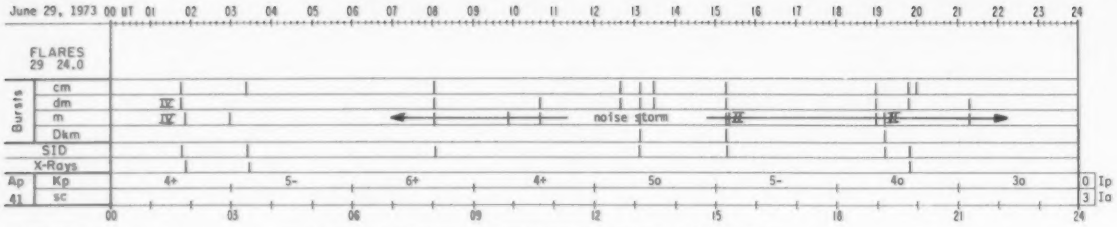
92 10 cm flux
38 Rz
CMP 12407 S17 (19217) S17 (βp)3

One of five most magnetically quiet days; no coronal data 7 days later on W. limb.



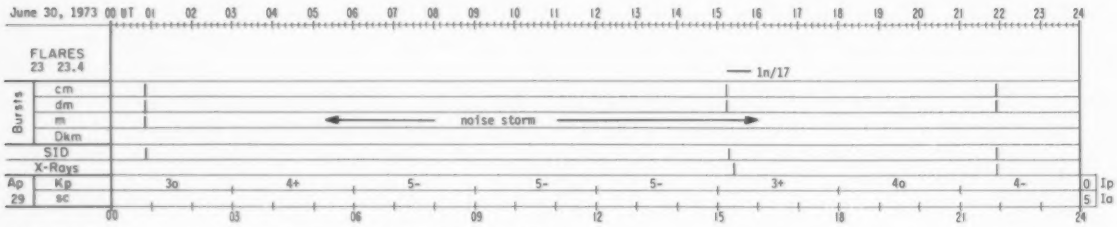
92 10 cm flux
39 Rz

No coronal data 7 days earlier on E. limb.



92 10 cm flux
51 Rz
CMP (12410) S01
(12421) N12

One of five most magnetically disturbed days with moderate activity all day;
no coronal data 7 days earlier on E. limb.



91 10 cm flux
33 Rz
CMP (12413) N03
12409 S15 (4) S05

No coronal data 7 days later on W. limb.

REGIONAL FLARE INDEX

JUNE 1973

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
12375	N14	73/06/09.1	73/06/14	73/06/16	59.58	19.86	5
12379	N17	73/06/13.2	73/06/06	73/06/15	105.06	10.51	4
12382	S13	73/06/14.7	73/06/15	73/06/15	8.76	8.76	2
12387	N15	73/06/17.6	73/06/12	73/06/18	339.49	48.50	6
12397	S 7	73/06/24.1	73/06/23	73/06/28	98.41	16.40	8
12398	S 4	73/06/25.0	73/06/20	73/06/29	7.07	0.71	2
12402	S13	73/06/26.1	73/06/21	73/06/29	54.18	6.02	7

Note:
The Regional Flare Index and count of flares in each region has in previous months included each maximum of a multi-maximum event. This has caused some regions to appear to be more flare producing than is probably warranted. Beginning with April 1972 only the principal maximum of a multi-maximum event will be used in the calculation. Also note that only the Confirmed Events as selected for the "I.A.U. Quarterly Bulletin on Solar Activity" are included in the calculation.

Because of differences in method of calculation, the dates of Central Meridian Passage for the McMath Plage Regions vary somewhat from those given elsewhere. Any region not listed here produced no confirmed flares during its disk passage.

MISCELLANEOUS DATA

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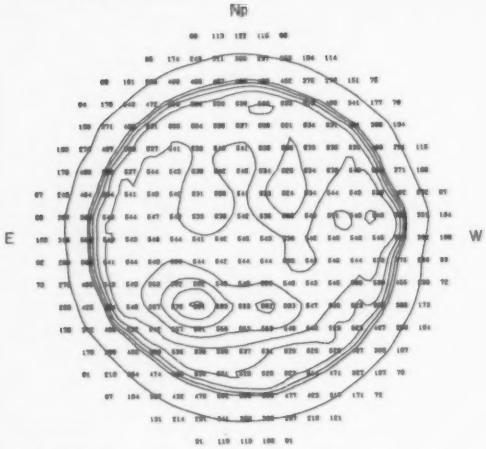
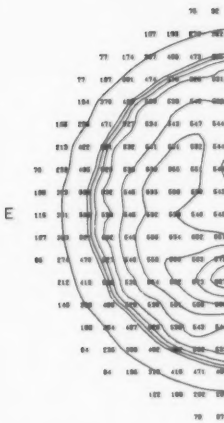
For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

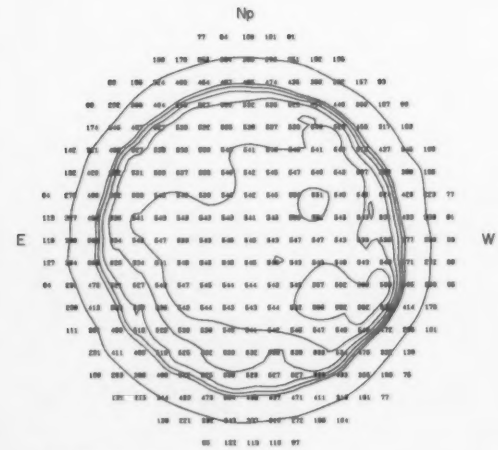
Prospect Hill



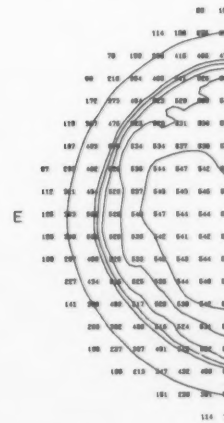
1/1512 UT



2/1314 UT



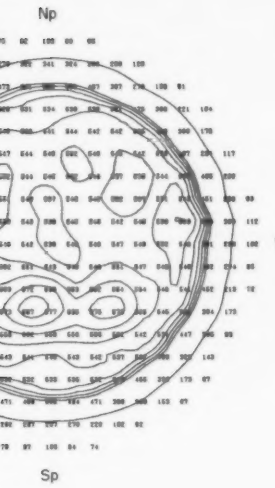
6/1452 UT

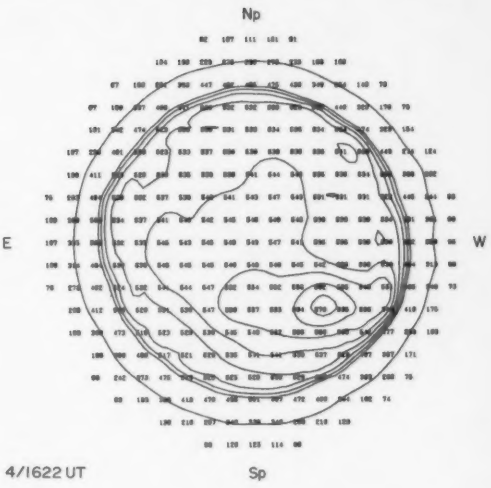


7/1529 UT

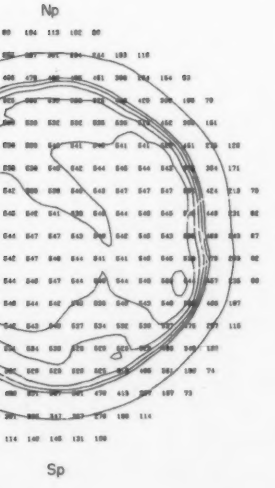
CTROHELIOGRAMS

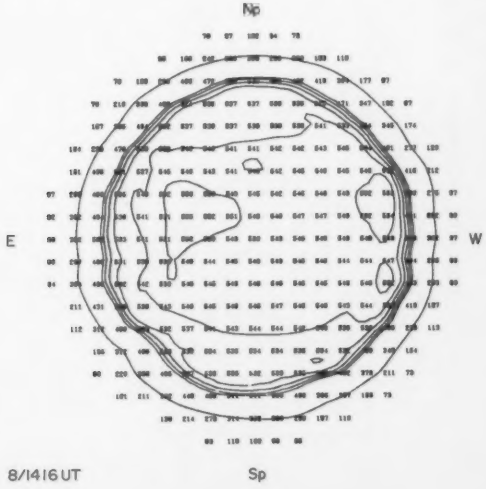
CTOBER 1973





4/1622 UT



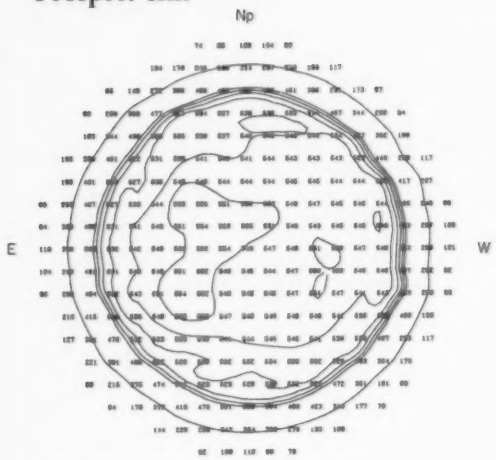


8/1416 UT

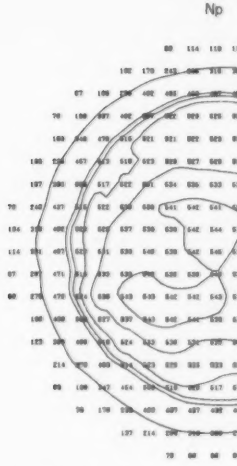
8.6 mm SPECTRO

OCTOBER

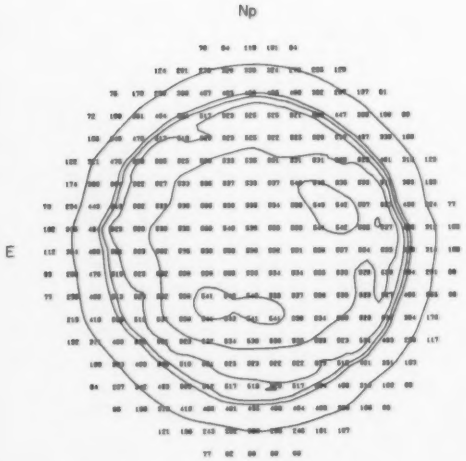
Prospect Hill



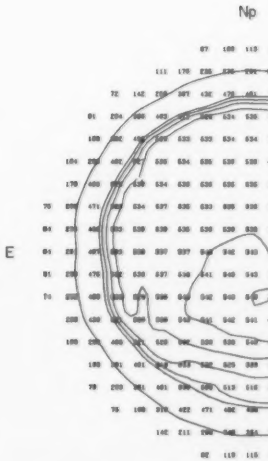
9/1333 UT



10/1325 UT



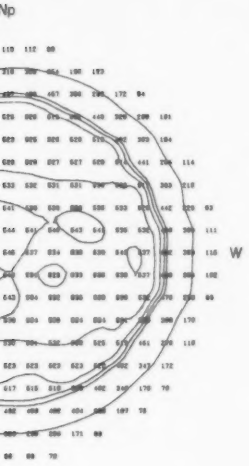
12/1435 UT

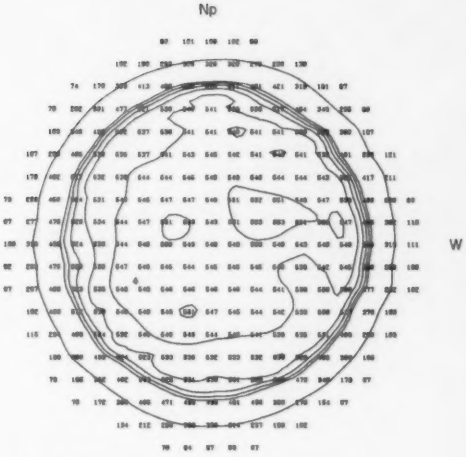


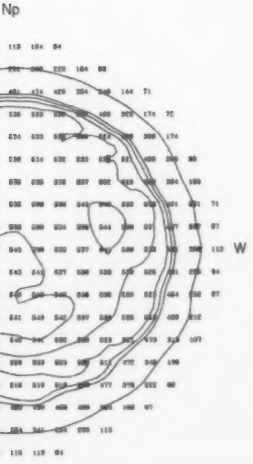
12/1820 UT

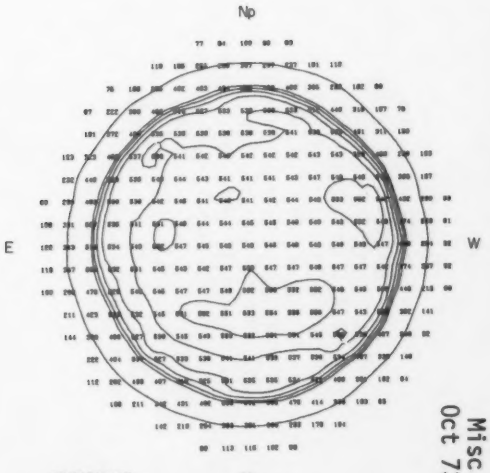
ROHELIOGRAMS

ER 1973







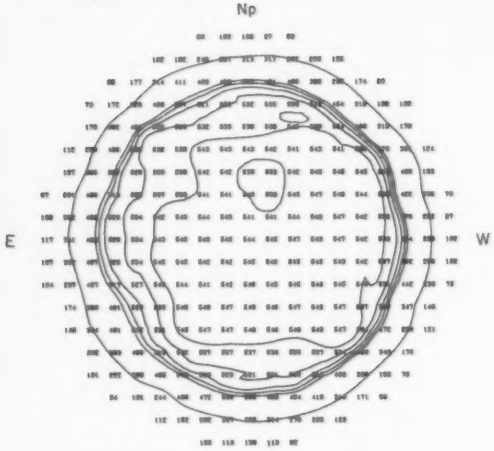


55
Misc
Oct 73

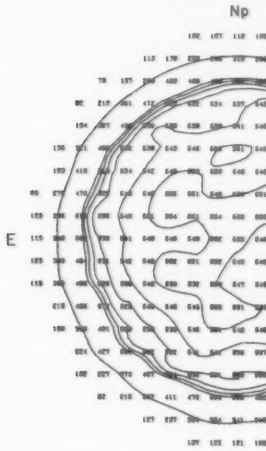
8.6 mm SPECTRO

OCTOBER

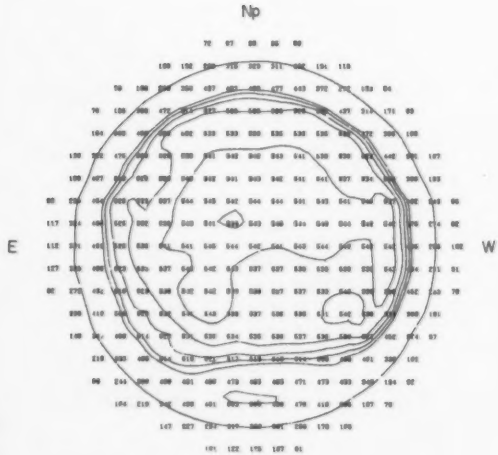
Prospect Hill



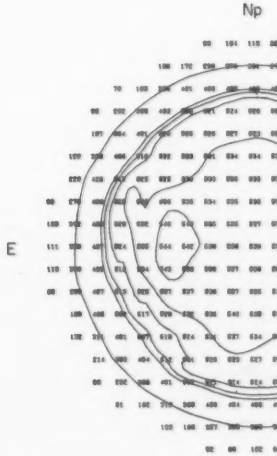
14/1453 UT



15/1358 UT



17/1405 UT



18/1448 UT

OHELIOGRAMS

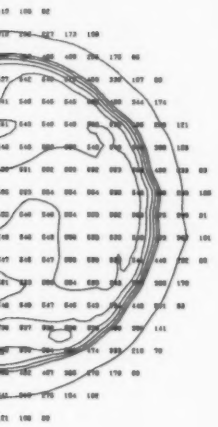
ER 1973

Np

W

E

Sp

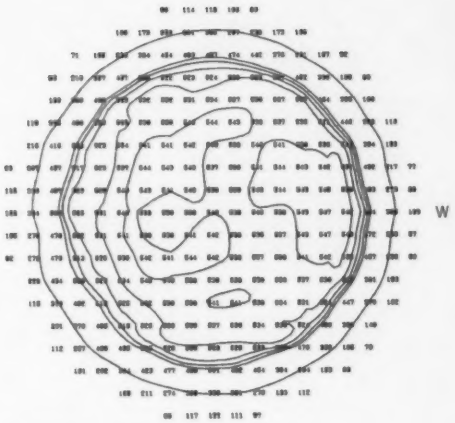


Np

W

E

Sp



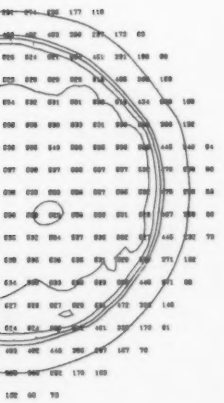
16/1357UT

Np

W

E

Sp

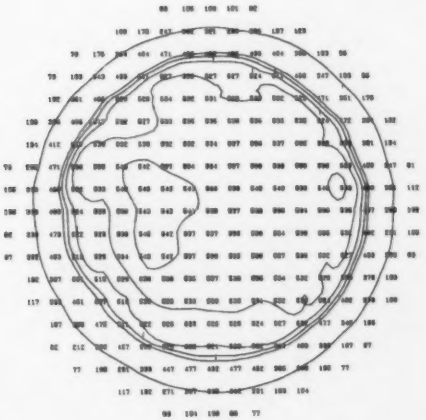


Np

W

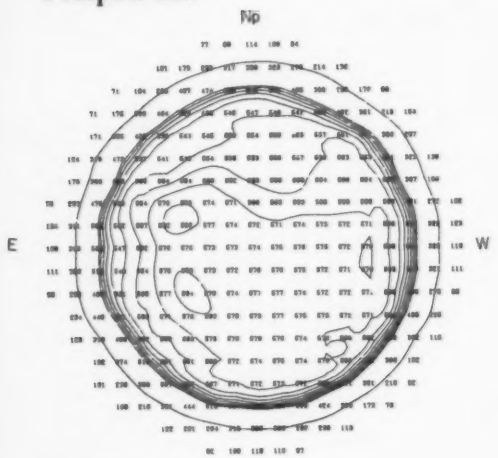
E

Sp

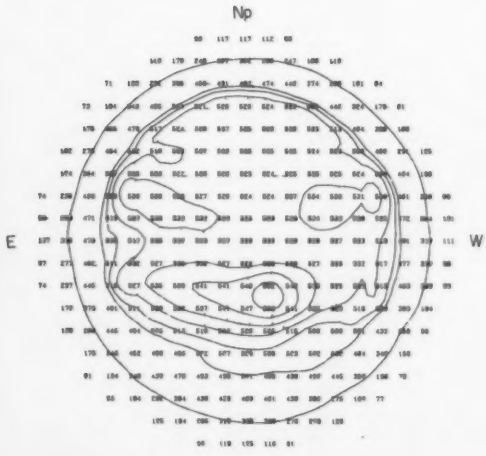


19/1407UT

Prospect Hill



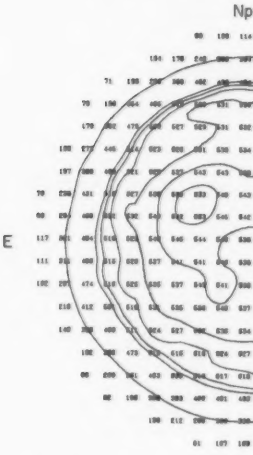
21/1317 UT



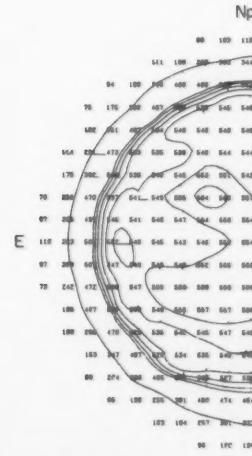
28/1550 UT

8.6 mm SPECTR

OCTOBE



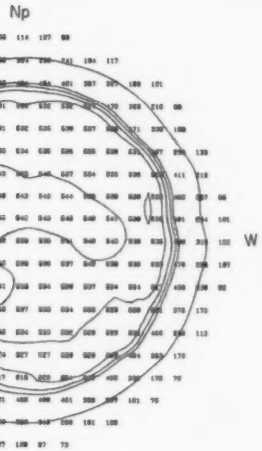
22/1305 UT

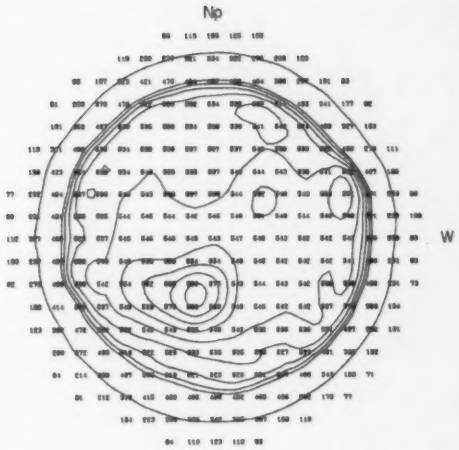


30/1908 UT

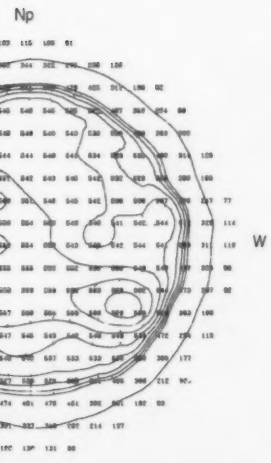
TROHELIOGRAMS

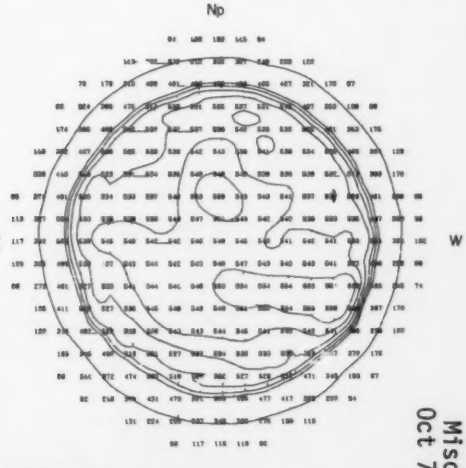
OBER 1973





27/1542 UT





31/1632 UT

57
Misc
Oct 73

SOLAR PROTONS
EXPLORER 4

DECEM

PROTON ENERGY GREATER THAN 60. MEV. HOURLY AVERAGES. IMPI SO

YEAR 1972

DATE	DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11
12 1	336	0.97	0.96	0.95	0.96	0.97	0.95	0.98	0.95	0.96	0.96	0.
12 2	337	0.96	0.95	0.97	0.96	0.98	0.96	0.95	0.96	0.97	0.96	0.
12 3	338	0.97	0.96	0.99	0.98	0.96	0.96	1.47	26.7	322.5	620.86	1.
12 4	339	0.97	0.97	0.97	0.98	0.97	0.96	0.99	0.97	0.97	0.97	0.
12 5	340	0.95	0.99	1.00	0.98	0.98	0.98	0.99	0.97	0.99	0.99	0.
12 6	341	0.99	0.97	0.98	0.98	0.97	0.98	0.98	0.98	0.98	0.98	0.
12 7	342	0.98	0.98	0.98	0.97	0.96	0.98	0.98	0.97	0.96	0.96	1.
12 8	343	0.94	0.96	0.94	0.95	0.95	0.97	0.96	0.95	0.96	0.96	0.
12 9	344	0.97	0.96	0.97	0.98	0.95	0.97	0.95	0.95	0.96	0.97	0.
12 10	345	0.97	0.96	0.96	0.97	0.97	0.96	0.97	0.97	0.97	0.97	0.
12 11	346	0.95	0.98	0.95	0.95	0.98	0.96	0.98	0.96	0.98	0.98	0.
12 12	347	0.98	0.99	0.99	0.99	0.97	0.98	0.98	1.00	0.99	0.99	0.
12 13	348	0.98	0.97	0.97	0.97	0.97	0.98	0.96	0.96	0.96	0.96	0.
12 14	349	0.96	0.98	0.95	0.95	0.97	0.97	0.95	0.95	0.97	0.97	0.
12 15	350	0.97	0.98	0.99	0.98	0.96	0.97	0.96	1.30	0.97	0.96	0.
12 16	351	0.95	0.95	0.96	0.96	0.96	0.96	0.97	0.95	0.94	0.96	0.
12 17	352	0.95	0.96	0.97	0.96	0.96	0.96	0.95	0.96	0.96	0.96	0.
12 18	353	0.95	0.95	0.94	1.29	0.96	0.98	0.97	0.97	0.96	0.97	0.
12 19	354	0.95	0.96	0.96	0.95	0.98	0.98	0.96	0.95	0.97	0.96	0.
12 20	355	23.40	1.07	0.95	0.96	0.98	0.99	0.97	0.98	0.96	0.97	0.
12 21	356	0.98	0.98	0.99	0.98	0.97	0.97	0.96	0.97	0.97	0.96	0.
12 22	357	0.98	0.99	0.97	0.99	0.98	0.96	0.97	0.96	0.98	0.98	0.
12 23	358	0.94	0.96	0.95	0.96	0.95	0.93	0.92	0.93	0.95	0.93	0.
12 24	359			15.97	10.65	3.13	1.21	0.98	0.93	0.92	0.92	0.
12 25	360	0.96	0.95	0.95	0.93	0.95	0.94	0.94	0.94	0.93	0.95	0.
12 26	361	0.95	0.94	0.95	0.95	0.95	0.95	0.95	0.94	0.93	0.94	0.
12 27	362	0.95	0.96	0.97	0.95	0.97	0.96	0.97	0.98	0.98	0.96	0.
12 28	363	0.96	0.96	0.97	2.09	40.69	9.48	42.35	9.85			

Note: Problems in data retrieval have delayed complete presentation of I
Gaps still exist in all months presented here.

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Misc
Dec 72

ONS BY SATELLITE
R 43 (1971-19A)

CEMBER 1972

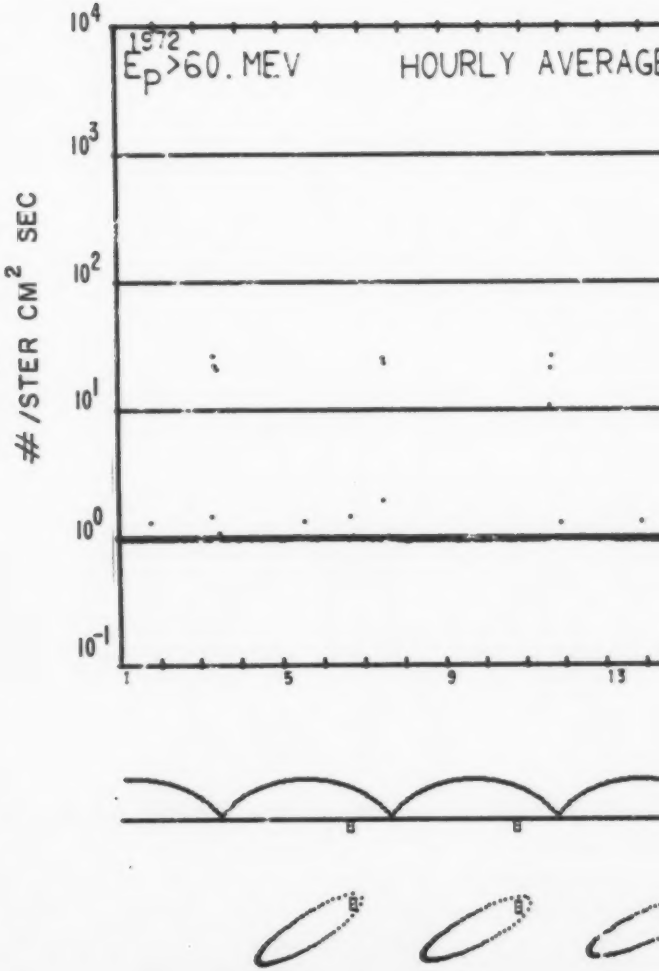
SOLAR PROTON MONITOR. JHU/APL AND NOAA/SEL

HOUR

11	12	13	14	15	16	17	18	19	20	21	22	23	24
0.97	0.95	0.96	0.96	0.97	0.97	0.96	0.99	1.30	0.96	0.95	0.98	0.98	0.95
0.97	0.98	0.97	0.96	0.96	0.97	0.97	0.97	0.95	0.98	0.97	0.98	0.98	0.97
1.06	0.97	0.97	0.96	0.98	0.97	0.99	0.97	0.98	0.97	0.97	0.96	0.98	0.96
0.98	0.96	0.97	0.98	0.99	0.98	0.98	0.98	0.98	0.97	0.98	0.97	0.96	0.98
0.97	0.98	1.33	1.00	0.98	0.97	0.97	0.98	0.98	0.96	0.97	0.98	0.99	1.00
0.97	0.97	0.99	0.98	0.96	1.46	0.98	0.99	0.99	0.99	0.97	0.99	0.96	0.98
1.97	25.7	523.52	0.99	0.97	0.97	0.97	0.97	0.97	0.96	0.96	0.96	0.96	0.97
0.95	0.96	0.96	0.96	0.96	0.95	0.96	0.97	0.96	0.95	0.95	0.97	0.96	0.97
0.96	0.96	0.96	0.95	0.95	0.96	0.96	0.97	0.95	0.96	0.98	0.96	0.96	0.96
0.97	0.97	0.96	0.96	0.95	0.96	0.98	0.95	0.97	0.97	0.97	0.95	0.96	0.96
0.97	0.97	0.99	0.99	10.88	21.31	26.48	0.98	0.98	0.99	1.31	0.98	0.98	0.99
0.98	0.99	0.98	0.98	0.99	0.98	0.99	0.98	0.97	0.97	0.97	0.97	0.99	0.98
0.98	0.98	0.96	0.96	0.98	0.97	0.95	0.97	0.98	0.97	1.35	0.96	0.99	0.96
0.98	0.98	0.96	0.99	0.98	0.97	0.95	0.97	0.98	0.97	0.97	0.98	0.98	0.98
0.98	0.97	0.97	0.97	0.98	0.95	0.96	0.94	0.97	12.13	9.36	0.97	0.97	0.95
0.96	0.95	0.94	0.96	0.96	0.96	0.96	0.98	0.97	0.95	0.94	0.96	0.95	1.32
0.95	0.95	0.94	0.95	0.97	0.94	0.97	0.97	0.96	0.96	0.95	0.96	0.95	0.95
0.96	0.95	0.96	1.58	0.97	0.97	0.97	0.96	0.96	0.96	0.96	0.97	0.96	0.96
0.97	0.97	0.96	0.96	0.97	0.95	0.98	0.97	0.96	0.97	0.97	3.19	40.93	97.18
0.98	0.97	0.97	0.96	0.98	0.96	0.97	0.97	0.97	0.98	0.96	0.97	0.98	0.96
0.98	0.97	0.98	0.97	1.00	0.99	0.99	0.98	1.00	0.97	0.97	0.97	0.99	0.97
0.97	0.97	0.97	0.97	0.96	0.97	0.98	0.95	0.97	0.96	0.95	0.96	0.96	0.95
0.93	0.93	0.94				0.96	0.94	0.93	0.92	0.93	0.93	0.93	0.96
0.94	0.93	0.95	0.95	0.95	0.94	0.94	0.95	0.95	0.94	0.92	0.93	0.93	0.95
0.94	0.96	1.29	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.96	0.95
0.96	0.93	0.95	0.96	0.95	0.95	0.94	0.95	0.96	0.94	0.97	0.96	0.96	0.95
0.96	0.95	2.32	0.96	0.96	0.97	0.96	0.97	0.98	0.96	0.96	0.96	0.97	0.96

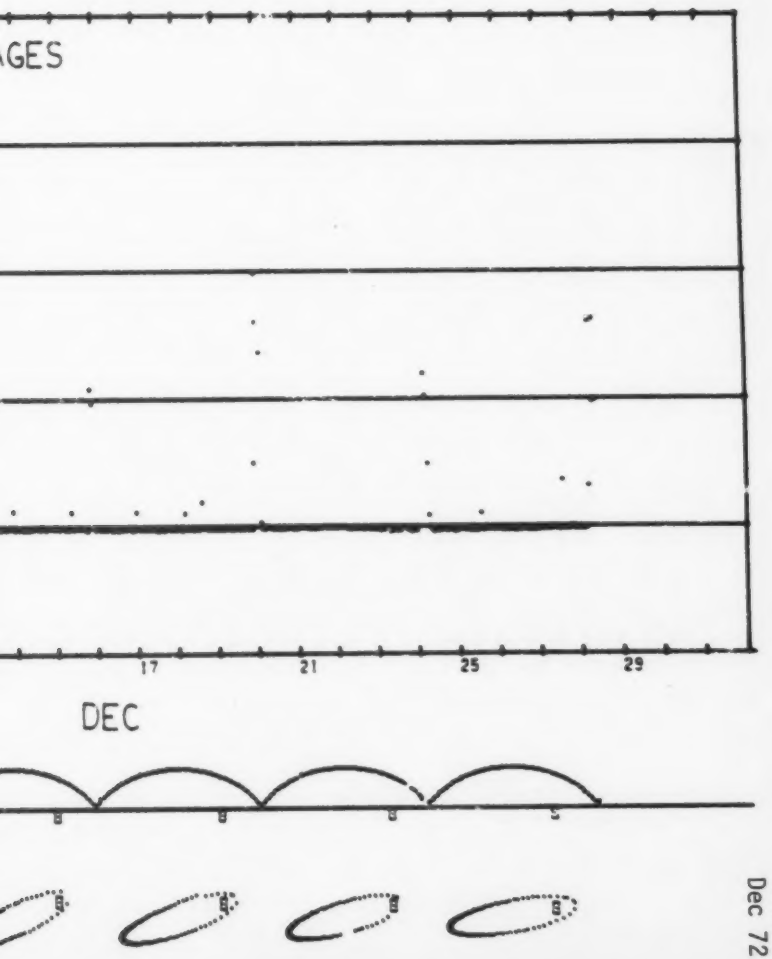
f IMP I Solar Proton Monitor data.

SOLAR
EX


1972
E_p>60. MEV
HOURLY AVERAGE
/STER CM^2 SEC
10^4
10^3
10^2
10^1
10^0
10^{-1}
1
5
9
13

AR PROTONS BY SATELLITE
EXPLORER 43 (1971–19A)

DECEMBER 1972



59
Misc
Dec 72

SOLAR PROTON
EXPLORER 4

DECEM

PROTON ENERGY GREATER THAN 30. MEV. HOURLY AVERAGES. IMPI SOLA

YEAR 1972

DATE	DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11
12	1 336	1.04	1.05	1.04	1.04	1.03	1.03	1.04	1.04	1.03	1.05	1.04
12	2 337	1.04	1.05	1.04	1.05	1.07	1.03	1.03	1.04	1.03	1.05	1.03
12	3 338	1.03	1.05	1.04	1.05	1.03	1.04	1.81	112.8	351.0	75.51	1.18
12	4 339	1.04	1.04	1.05	1.06	1.06	1.04	1.06	1.05	1.05	1.05	1.05
12	5 340	1.04	1.04	1.05	1.06	1.04	1.05	1.05	1.06	1.06	1.04	1.06
12	6 341	1.07	1.06	1.05	1.03	1.05	1.06	1.06	1.04	1.04	1.04	1.05
12	7 342	1.05	1.05	1.04	1.03	1.04	1.03	1.06	1.06	1.07	1.05	2.71
12	8 343	1.02	1.03	1.02	1.03	1.02	1.03	1.03	1.03	1.02	1.03	1.05
12	9 344	1.04	1.04	1.05	1.03	1.05	1.05	1.03	1.05	1.04	1.04	1.05
12	10 345	1.03	1.02	1.04	1.02	1.04	1.06	1.05	1.03	1.05	1.04	1.05
12	11 346	1.05	1.05	1.05	1.04	1.03	1.04	1.04	1.04	1.05	1.04	1.04
12	12 347	1.06	1.04	1.04	1.06	1.06	1.05	1.06	1.06	1.05	1.06	1.05
12	13 348	1.04	1.05	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
12	14 349	1.05	1.04	1.05	1.03	1.04	1.03	1.04	1.03	1.04	1.02	1.04
12	15 350	1.06	1.05	1.03	1.05	1.06	1.05	1.04	1.41	1.03	1.03	1.06
12	16 351	1.03	1.03	1.02	1.03	1.03	1.02	1.04	1.03	1.03	1.02	1.03
12	17 352	1.04	1.03	1.03	1.02	1.05	1.03	1.02	1.02	1.02	1.04	1.03
12	18 353	1.03	1.03	1.03	1.41	1.03	1.04	1.04	1.02	1.04	1.02	1.04
12	19 354	1.02	1.04	1.02	1.04	1.02	1.03	1.02	1.02	1.03	1.03	1.05
12	20 355	48.24	1.18	1.06	1.06	1.06	1.04	1.05	1.05	1.04	1.04	1.05
12	21 356	1.05	1.05	1.05	1.06	1.04	1.03	1.05	1.05	1.05	1.05	1.04
12	22 357	1.06	1.03	1.05	1.05	1.05	1.03	1.05	1.05	1.03	1.05	1.04
12	23 358	1.02	1.01	1.03	1.02	1.02	1.00	0.99	1.00	1.03	1.01	0.99
12	24 359			96.82	17.14	4.50	1.49	1.09	1.01	1.00	1.00	1.00
12	25 360	1.02	1.03	1.01	1.00	1.02	1.00	1.01	1.01	1.01	1.02	1.01
12	26 361	1.02	1.03	1.02	1.01	1.02	1.00	1.02	1.01	1.00	1.02	1.03
12	27 362	1.02	1.02	1.02	1.04	1.03	1.04	1.05	1.04	1.05	1.02	1.04
12	28 363	1.04	1.02	1.03	2.97	106.9	172.7	131.0	17.00			

ONS BY SATELLITE
R 43 (1971–19A)

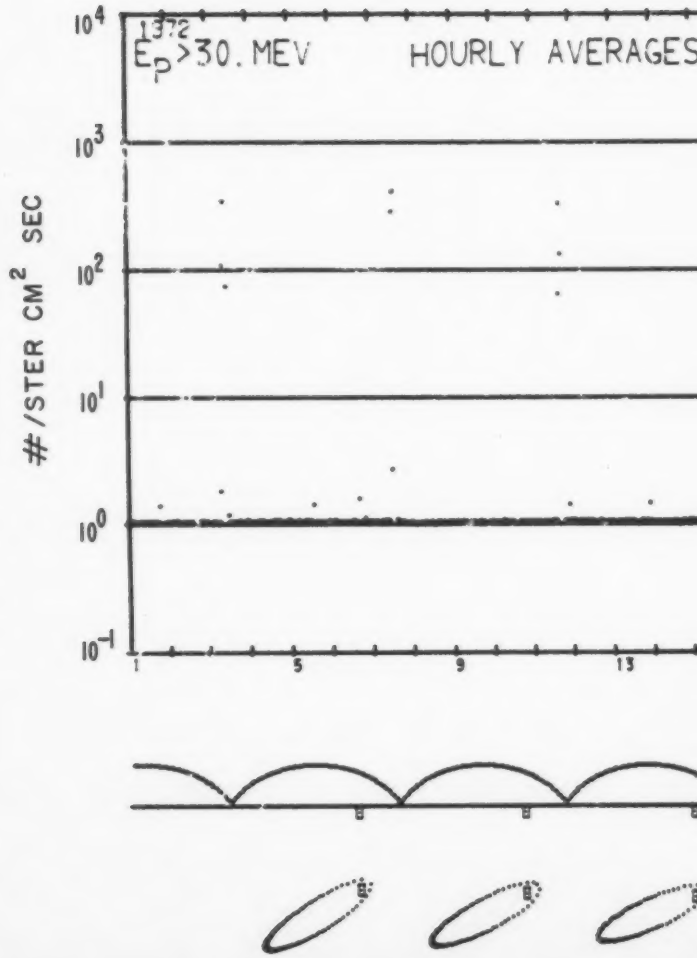
CEMBER 1972

OLAR PROTON MONITOR. JHU/APL AND NOAA/SEL

HOUR

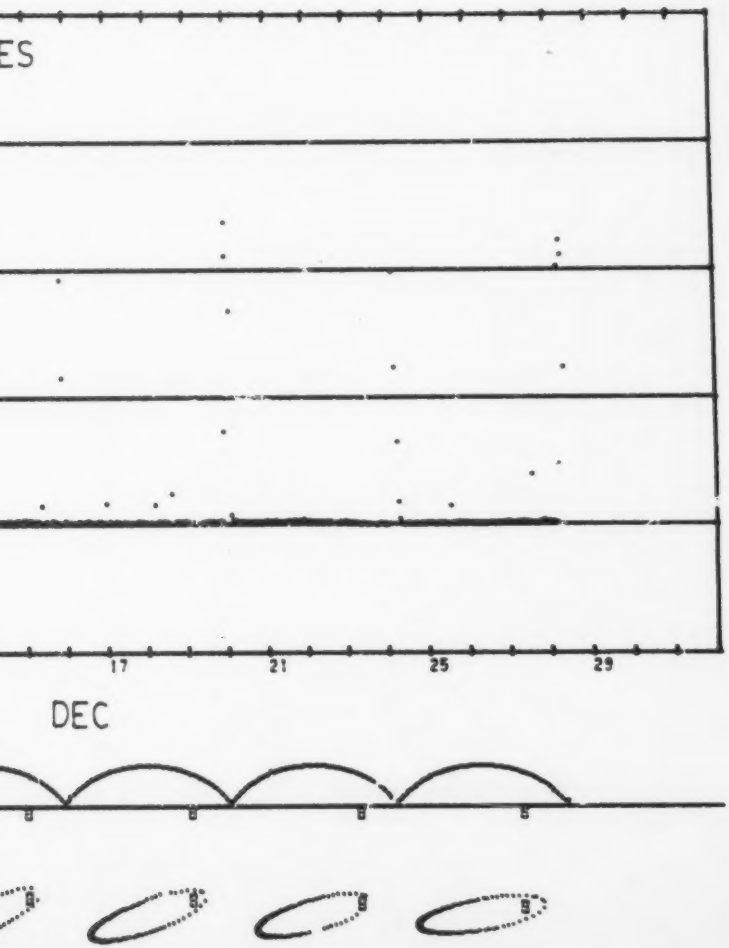
1	12	13	14	15	16	17	18	19	20	21	22	23	24
.04	1.02	1.04	1.05	1.05	1.05	1.05	1.03	1.40	1.02	1.03	1.03	1.03	1.04
.03	1.05	1.04	1.04	1.04	1.04	1.04	1.05	1.05	1.06	1.04	1.04	1.05	1.02
.18	1.05	1.03	1.06	1.05	1.05	1.03	1.07	1.05	1.05	1.04	1.07	1.04	1.07
.05	1.04	1.06	1.07	1.02	1.06	1.06	1.04	1.05	1.04	1.06	1.06	1.06	1.07
.06	1.06	1.43	1.05	1.05	1.05	1.05	1.06	1.03	1.04	1.05	1.07	1.05	1.05
.05	1.06	1.07	1.06	1.05	1.60	1.06	1.06	1.06	1.03	1.05	1.03	1.04	1.05
.71	292.	3422.	6 1.08	1.05	1.03	1.04	1.04	1.04	1.03	1.02	1.03	1.04	1.02
.05	1.02	1.01	1.05	1.03	1.04	1.03	1.04	1.03	1.04	1.03	1.04	1.05	1.03
.05	1.03	1.03	1.02	1.03	1.04	1.04	1.03	1.03	1.03	1.03	1.04	1.05	1.03
.05	1.04	1.05	1.02	1.04	1.04	1.04	1.04	1.04	1.04	1.05	1.03	1.03	1.04
.04	1.06	1.07	1.04	65.0	1331.	1135.	0 1.06	1.05	1.07	1.43	1.06	1.05	1.07
.05	1.06	1.05	1.05	1.06	1.06	1.04	1.04	1.04	1.05	1.05	1.04	1.04	1.04
.04	1.04	1.03	1.03	1.03	1.05	1.06	1.05	1.04	1.07	1.46	1.05	1.04	1.04
.04	1.04	1.05	1.04	1.01	1.04	1.03	1.06	1.05	1.05	1.06	1.05	1.05	1.07
.06	1.03	1.03	1.03	1.06	1.04	1.03	1.03	1.03	85.5	214.	45 1.04	1.06	1.03
.03	1.04	1.04	1.03	1.03	1.02	1.03	1.04	1.01	1.03	1.01	1.02	1.02	1.46
.03	1.03	1.03	1.01	1.02	1.03	1.03	1.04	1.04	1.03	1.04	1.03	1.02	1.02
.04	1.03	1.03	1.76	1.02	1.03	1.04	1.04	1.03	1.04	1.05	1.05	1.05	1.03
.05	1.06	1.03	1.04	1.04	1.04	1.02	1.05	1.05	1.06	1.05	5.47	129.	92 39.1
.05	1.03	1.04	1.04	1.05	1.03	1.05	1.05	1.05	1.03	1.06	1.05	1.06	1.06
.04	1.06	1.05	1.05	1.06	1.06	1.04	1.06	1.06	1.05	1.08	1.06	1.04	1.04
.04	1.05	1.04	1.05	1.03	1.03	1.02	1.02	1.04	1.03	1.04	1.04	1.03	1.02
.99	1.01	0.99				0.99	1.01	1.00	1.01	0.99	1.00	0.99	0.98
.00	1.02	1.01	1.01	1.01	1.02	1.00	1.01	1.00	1.01	1.01	1.01	1.03	1.02
.01	1.00	1.41	1.03	1.02	1.02	1.01	1.04	1.02	1.03	1.03	1.03	1.02	1.03
.03	1.03	1.02	1.02	1.03	1.03	1.02	1.02	1.02	1.01	1.05	1.03	1.04	1.04
.04	1.03	2.49	1.03	1.02	1.02	1.04	1.02	1.04	1.03	1.02	1.03	1.03	1.04

SOLAR
EXP


1372
E_p>30. MEV
HOURLY AVERAGES
#/STER CM^2 SEC
10^4
10^3
10^2
10^1
10^0
10^{-1}
1
5
9
13

R PROTONS BY SATELLITE
XPLORER 43 (1971–19A)

DECEMBER 1972



SOLAR PROTONS
EXPLORER 4

DECEMB

PROTON ENERGY GREATER THAN 10. MEV. HOURLY AVERAGES. IMPI SOLA

YEAR 1972

DATE	DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11
12 1	336	0.56	0.54	0.60	0.58	0.57	0.56	0.56	0.61	0.61	0.59	0.60
12 2	337	0.56	0.60	0.60	0.60	0.59	0.60	0.54	0.59	0.60	0.63	0.56
12 3	338	0.58	0.62	0.64	0.66	0.61	0.57662.331467125962522890.75					
12 4	339	0.60	0.62	0.60	0.58	0.62	0.57	0.57	0.59	0.54	0.61	0.61
12 5	340	0.57	0.58	0.61	0.60	0.60	0.60	0.63	0.59	0.57	0.58	0.59
12 6	341	0.57	0.63	0.57	0.60	0.58	0.58	0.62	0.58	0.58	0.57	0.61
12 7	342	0.55	0.58	0.58	0.59	0.60	0.58	0.58	0.57	0.60	0.59	1581
12 8	343	0.57	0.59	0.59	0.61	0.62	0.58	0.58	0.58	0.60	0.56	0.54
12 9	344	0.56	0.58	0.56	0.57	0.61	0.57	0.55	0.58	0.58	0.59	0.55
12 10	345	0.58	0.62	0.58	0.59	0.60	0.59	0.57	0.60	0.58	0.61	0.57
12 11	346	0.61	0.53	0.58	0.59	0.58	0.58	0.59	0.56	0.61	0.55	0.58
12 12	347	0.60	0.58	0.60	0.61	0.58	0.57	0.56	0.60	0.58	0.53	0.59
12 13	348	0.58	0.60	0.60	0.60	0.62	0.58	0.59	0.55	0.57	0.58	0.66
12 14	349	0.50	0.55	0.61	0.59	0.55	0.57	0.59	0.57	0.58	0.59	0.59
12 15	350	0.56	0.61	0.65	0.57	0.60	0.58	0.60	2.26	0.58	0.58	0.57
12 16	351	0.70	0.91	0.63	0.65	0.75	0.76	0.78	0.76	0.75	0.76	0.77
12 17	352	0.59	0.60	0.60	0.63	0.60	0.62	0.59	0.61	0.62	0.56	0.57
12 18	353	0.55	0.62	0.57	2.35	0.55	0.61	0.61	0.61	0.58	0.61	0.61
12 19	354	0.57	0.58	0.59	0.56	0.58	0.56	0.59	0.58	0.56	0.64	0.59
12 20	355	354	98.05	4.09	3.29	4.79	4.53	0.89	0.61	0.59	0.52	0.54
12 21	356	0.58	0.60	0.59	0.58	0.59	0.56	0.63	0.58	0.58	0.58	0.60
12 22	357	0.60	0.60	0.57	0.59	0.57	0.55	0.53	0.56	0.61	0.60	0.56
12 23	358	0.61	0.59	0.54	0.57	0.57	0.58	0.58	0.61	0.54	0.62	0.56
12 24	359			1836	312457	2510	252.8	46.54	9.68	1.23	0.77	0.62
12 25	360	0.61	0.57	0.57	0.58	0.58	0.60	0.57	0.54	0.54	0.58	0.60
12 26	361	0.58	0.58	0.60	0.58	0.58	0.58	0.55	0.56	0.58	0.59	0.58
12 27	362	0.53	0.59	0.60	0.59	0.62	0.57	0.56	0.61	0.53	0.60	0.65
12 28	363	0.60	0.58	0.75	160	055	122	586	256	410	131	50

NS BY SATELLITE
43 (1971-19A)

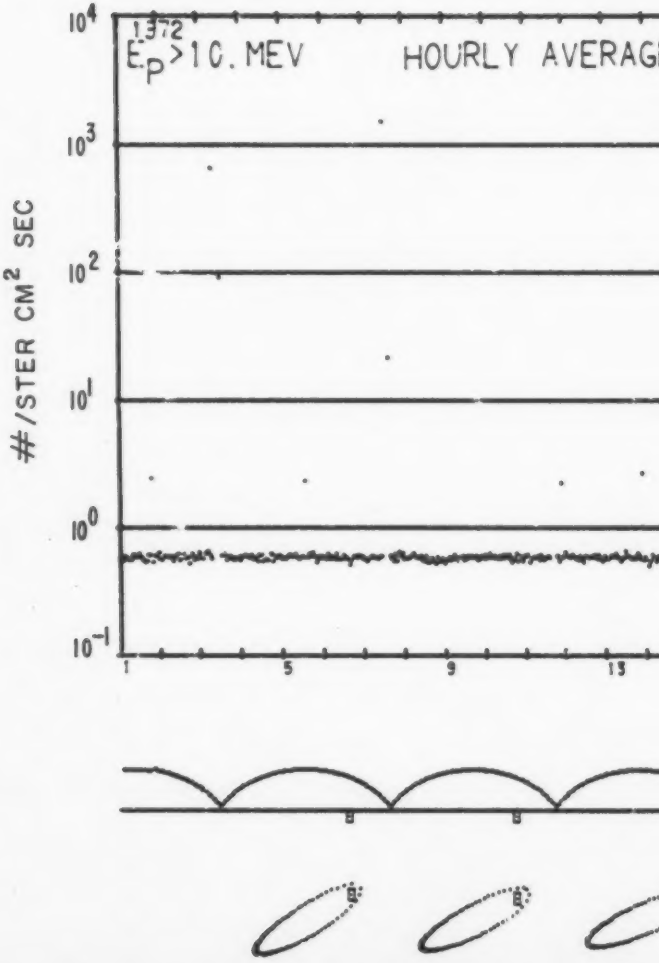
EMBER 1972

OLAR PROTON MONITOR. JHU/APL AND NOAA/SEL

HOUR

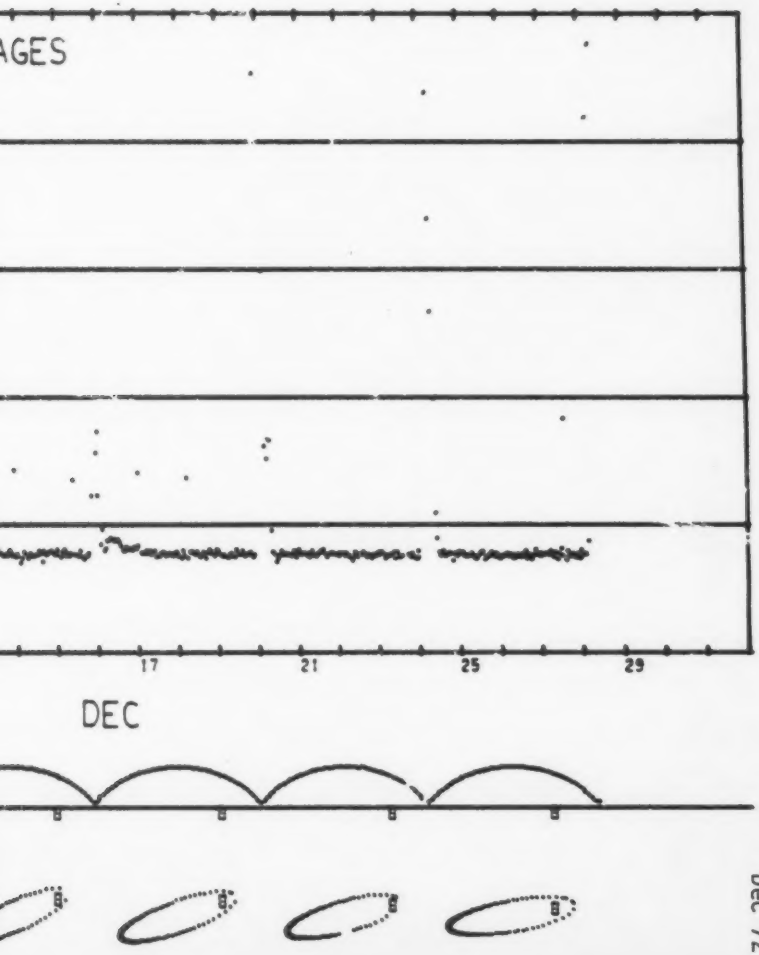
1	12	13	14	15	16	17	18	19	20	21	22	23	24
.60	0.63	0.58	0.56	0.54	0.55	0.61	0.62	2.42	0.54	0.60	0.61	0.63	0.57
.56	0.56	0.63	0.57	0.58	0.58	0.52	0.63	0.60	0.56	0.58	0.57	0.60	0.64
.75	0.59	0.62	0.62	0.56	0.60	0.60	0.58	0.56	0.58	0.58	0.57	0.60	0.55
.61	0.55	0.58	0.56	0.56	0.62	0.63	0.55	0.60	0.58	0.61	0.59	0.58	0.57
.59	0.57	2.33	0.59	0.62	0.60	0.64	0.60	0.54	0.57	0.59	0.59	0.59	0.60
.61	0.58	0.58	0.56	0.51	0.56	0.60	0.60	0.58	0.61	0.60	0.60	0.59	0.57
5812	07	03	1189	92	1.41	0.60	0.58	0.55	0.59	0.54	0.64	0.60	0.62	0.57	0.57
.54	0.60	0.54	0.53	0.57	0.57	0.53	0.52	0.59	0.54	0.55	0.57	0.56	0.52
.55	0.57	0.60	0.59	0.60	0.58	0.59	0.60	0.56	0.57	0.60	0.59	0.57	0.62
.57	0.61	0.57	0.62	0.54	0.58	0.58	0.62	0.55	0.60	0.58	0.55	0.60	0.60
.58	0.58	0.60	0.59	10	59	31	28	37	29	549	0.60	0.60	0.55	2.25	0.59	0.62	0.65
.59	0.60	0.59	0.58	0.59	0.58	0.61	0.57	0.61	0.58	0.55	0.58	0.60	0.57
.66	0.59	0.60	0.58	0.57	0.59	0.57	0.63	0.60	0.57	2.65	0.56	0.58	0.58
.59	0.62	0.59	0.51	0.62	0.58	0.60	0.61	0.62	0.61	0.59	0.60	0.58	0.64
.57	0.58	0.62	0.56	0.53	0.57	0.58	0.60	1.65	10	82	11	34	42	3.63	5.37	1.66
.77	0.73	0.69	0.63	0.63	0.66	0.64	0.66	0.64	0.63	0.67	0.65	0.68	2.54
.57	0.58	0.60	0.61	0.60	0.57	0.59	0.59	0.59	0.57	0.59	0.61	0.57	0.57
.61	0.56	0.57	0.61	0.58	0.55	0.61	0.64	0.60	0.61	0.58	0.65	0.62	0.60
.59	0.58	0.60	0.62	0.58	0.58	0.60	0.59	0.62	0.56	0.58	34	72	55	47	5*	*****
.54	0.58	0.62	0.58	0.59	0.59	0.59	0.59	0.57	0.62	0.58	0.56	0.64	0.61
.60	0.62	0.61	0.64	0.59	0.56	0.59	0.59	0.60	0.60	0.59	0.58	0.57	0.60
.56	0.59	0.59	0.61	0.58	0.56	0.58	0.57	0.54	0.58	0.57	0.60	0.58	0.61
.56	0.56	0.58				0.58	0.56	0.60	0.56	0.55	0.55	0.56	0.63
.62	0.57	0.62	0.58	0.57	0.59	0.59	0.60	0.52	0.59	0.57	0.61	0.60	0.61
.60	0.61	0.62	0.54	0.55	0.58	0.58	0.61	0.57	0.57	0.60	0.56	0.57	0.54
.56	0.58	0.58	0.63	0.54	0.58	0.57	0.54	0.59	0.64	0.59	0.58	0.60	0.57
.65	0.57	6.89	0.52	0.63	0.57	0.58	0.60	0.56	0.56	0.59	0.55	0.57	0.65

SOLA


1372
E_p>10. MEV
HOURLY AVERAG
#/STER CM^2 SEC
10^4
10^3
10^2
10^1
10^0
10^{-1}
1
5
9
13

LAR PROTONS BY SATELLITE
EXPLORER 43 (1971–19A)

DECEMBER 1972



SOLAR PROTONS
EXPLORER 43

FEBRUAR

PROTON ENERGY GREATER THAN 60. MEV. HOURLY AVERAGES. IMPI SOLAR

YEAR 1973 DATE	DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11
2 1	32	0.98	0.99	0.98	0.99	0.98	0.98	0.97	0.99	0.98	0.97	0.98
2 2	33						1.00	0.98	0.99	0.98	0.97	0.98
2 3	34											
2 4	35	1.00	0.97	0.99	1.00	1.00	1.00	1.01	1.02	1.01	0.99	1.00
2 5	36	1.01	1.02	1.02	1.01	1.02	1.03	1.03	1.03	1.03	1.03	1.01
2 6	37	1.00	1.01	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.00	1.01
2 7	38	0.99	1.00	0.99	1.00	0.98	1.00	1.00	1.02	1.01	1.00	1.00
2 8	39	1.00	0.99	0.99	0.98	1.00	0.99	1.01	0.99	0.99	0.99	0.99
2 9	40	0.99	0.99	1.00	0.99	1.00	0.98	1.01	0.99	0.99	1.00	0.98
2 10	41	1.00	0.99	1.00	1.01	1.00	1.01	0.98	1.00	1.01	1.01	1.00
2 11	42	0.99	1.00	1.01	0.99	1.01	0.99	1.01	1.00	1.00	1.01	1.01
2 12	43	1.04	1.04	1.00	0.99	1.02	1.00	0.99	1.01	0.99	0.99	1.01
2 13	44	1.01	1.01	1.01	1.02	1.01	1.03	1.01	1.02	1.01	1.02	1.01
2 14	45	1.01	1.01	1.02	1.03	1.01	1.02	1.01	1.00	1.01	1.01	1.00
2 15	46	1.02	1.02	1.01	1.02	1.00	1.01	1.00	1.02	1.01	1.02	1.00
2 16	47	6.15	22.35	1.02	1.00	1.04	1.01	1.00	1.00	1.01	1.00	0.99
2 17	48	1.00	0.98	0.99	0.98	0.97	0.99	0.98	0.99	0.98	0.97	0.98
2 18	49	0.99	0.97	0.96	0.97	0.98	0.97	0.97	0.95	0.96	0.95	0.96
2 19	50	0.95	0.96	0.95	0.94	0.96	0.96	0.97	0.95	0.96	0.94	0.95
2 20	51	0.94	1.33	35.33	15.15	30.88	1.17	0.94	0.96	0.94	0.94	0.94
2 21	52	0.94	0.94	0.95	0.94	0.96	0.94	0.95	0.93	0.94	0.95	0.93
2 22	53	0.95	0.95	0.95	0.93	0.94	0.95	0.94	0.95	0.93	0.93	0.93
2 23	54	0.91	0.92	0.92	0.93	0.91	0.92	0.91	0.93	0.92	0.92	0.92
2 24	55	0.93	0.92	0.95	0.94	0.96	1.12	200.6	186.1	6.44	0.96	0.91
2 25	56	0.93	0.93	0.95	0.94	0.95	0.96	0.95	0.95	0.95	0.95	0.97
2 26	57	0.94	0.95	0.95	0.96	0.95	0.95	0.96	0.95	0.96	0.95	0.95
2 27	58	0.95	0.95	0.95	0.96	0.96	0.96	0.95	0.95	0.95	0.95	0.96
2 28	59	0.95	0.95	0.97	0.95	0.95	0.95	0.95	0.96	0.96	9.996	26.7

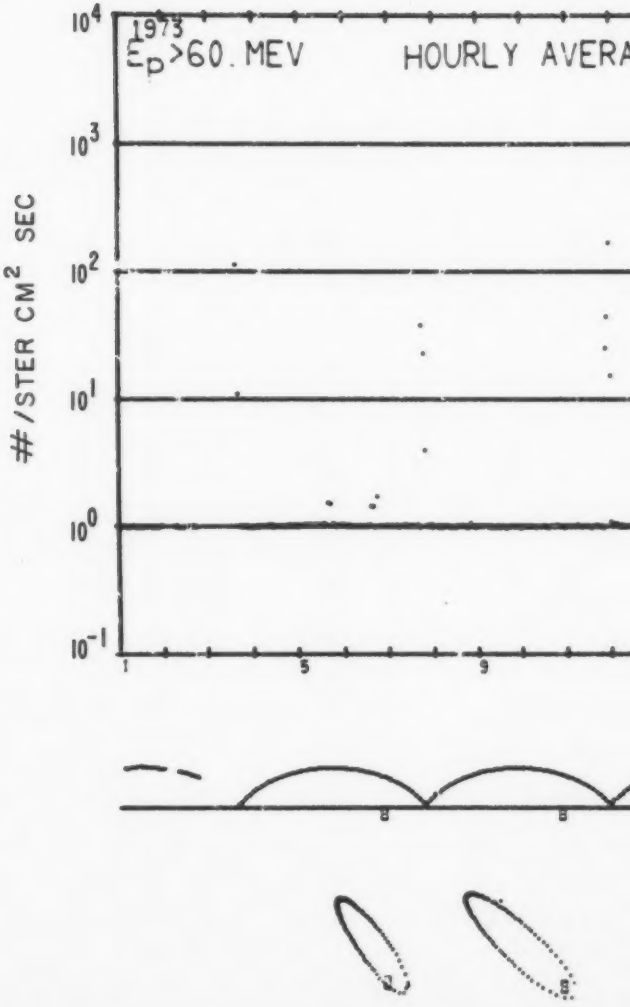
NS BY SATELLITE
43 (1971-19A)

UARY 1973

LAR PROTON MONITOR. JHU/APL AND NOAA/SEL

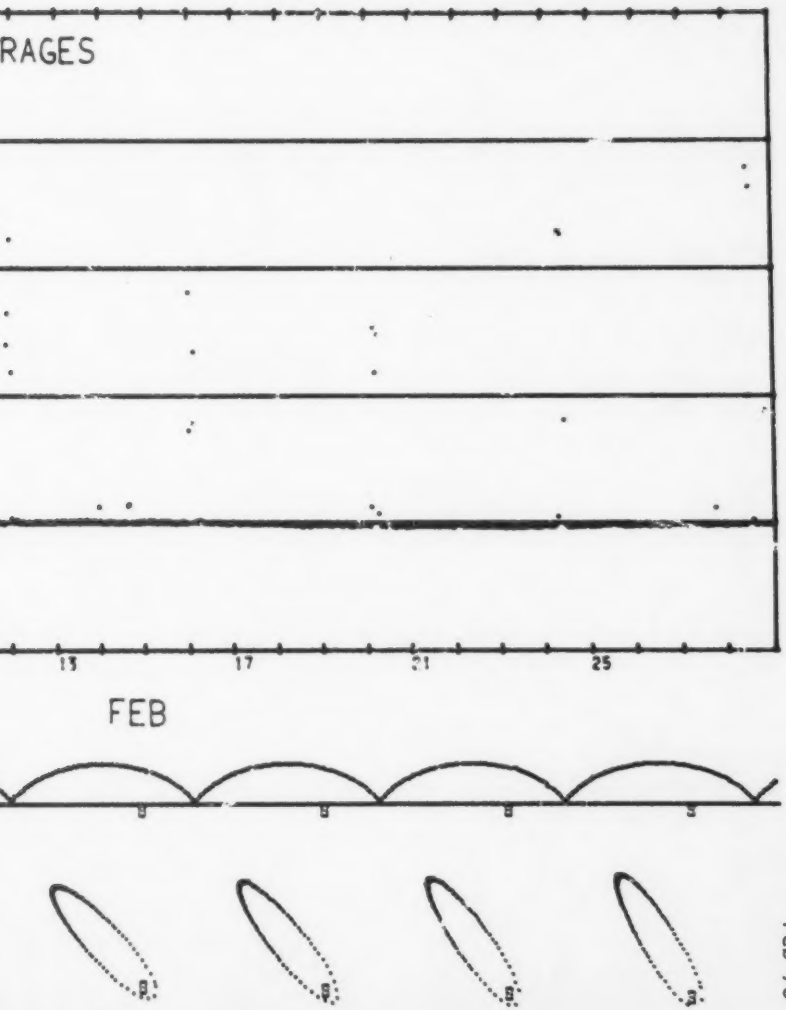
HOUR

12	13	14	15	16	17	18	19	20	21	22	23	24
98 0.98	0.97	0.99	0.97	0.98	0.97	0.98	0.98	0.98	0.98	0.98	0.99	
98 0.97	0.99	0.99	0.99	0.99	0.98							
		113.5	10.96	1.00	0.98	1.00	1.01	0.98	0.98	0.99	0.98	0.98
00 1.01	1.00	0.99	0.99	1.00	1.00	1.02	1.00	1.01	1.02	1.01	1.00	1.02
01 1.02	1.03	1.01	1.53	1.51	1.05	1.03	1.01	1.02	1.02	1.01	1.03	1.01
01 1.00	1.03	1.43	1.42	0.99	1.71	1.00	0.99	1.00	0.99	1.01	1.00	1.00
00 1.00	0.99	1.00	1.02	0.99	37.90	22.78	3.92	1.00	1.01	1.01	0.98	1.01
99 1.00	1.01	0.99	1.00	1.00	0.98	0.98	1.00	0.99	1.00	0.98	1.00	1.00
98 1.00	0.99	0.98	0.98	1.00	0.99	0.99	1.00	1.00	1.00	0.99	0.99	0.99
00 0.99	0.99	1.00	1.00	1.00	1.00	1.02	0.99	1.00	1.00	0.99	1.00	1.00
01 0.98	1.00	1.00	1.02	0.99	1.00	1.00	0.98	25.52	44.49	172.8	15.37	1.07
01 1.01	1.00	1.01	1.00	1.00	1.01	1.02	1.01	1.01	1.01	1.01	1.02	1.02
01 1.04	1.01	1.02	1.03	1.05	1.02	1.03	1.02	1.02	1.02	1.34	1.03	1.02
00 1.03	1.01	1.36	1.41	1.01	1.01	1.00	1.01	0.99	1.03	1.01	1.01	1.02
00 1.01	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.01	1.01	1.00	5.37	65.44
99 1.00	1.00	1.01	0.99	1.00	0.99	0.99	0.98	0.98	0.98	0.97	0.99	1.00
98 0.98	0.98	0.98	0.97	0.98	0.98	0.97	0.97	0.97	0.98	0.98	0.97	0.98
96 0.94	0.94	0.95	0.95	0.94	0.94	0.97	0.95	0.95	0.95	0.95	0.96	0.95
95 0.96	0.96	0.95	0.94	0.94	0.94	0.94	0.95	0.94	0.95	0.97	0.95	0.95
94 0.95	0.94	0.95	0.92	0.93	0.93	0.94	0.94	0.94	0.92	0.94	0.93	0.94
93 0.93	0.94	0.94	0.93	0.95	0.93	0.94	0.94	0.93	0.96	0.91	0.93	0.95
93 0.94	0.93	0.92	0.96	0.94	0.94	0.92	0.93	0.95	0.92	0.94	0.93	0.93
92 0.92	0.94	0.93	0.94	0.93	0.93	0.92	0.93	0.92	0.94	0.93	0.93	0.95
91 0.95	0.93	0.92	0.94	0.94	0.94	0.94	0.94	0.94	0.95	0.95	0.94	0.94
97 0.98	0.95	0.95	0.95	0.95	0.94	0.95	0.95	0.95	0.94	0.95	0.95	0.96
95 0.94	0.96	0.95	0.97	0.95	0.96	0.96	0.98	0.94	0.96	0.96	0.97	0.96
96 0.93	0.95	0.96	0.96	0.96	1.31	0.96	0.95	0.96	0.96	0.94	0.96	0.96
.7434.2	1.04	0.96	0.96	0.97	0.98	0.98	0.95	0.97	0.98	0.96	0.97	0.96


1973
E_p>60. MEV
HOURLY AVERA
#/STER CM^2 SEC
10^4
10^3
10^2
10^1
10^0
10^{-1}
1
5
9

OLAR PROTONS BY SATELLITE
EXPLORER 43 (1971–19A)

FEBRUARY 1973



65
Misc
Feb 73

SOLAR PROTONS
EXPLORER 4

FEBRU

PROTON ENERGY GREATER THAN 30. MEV. HOURLY AVERAGES. IMPI SOL

YEAR 1973

DATE		DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11
2	1	32	1.06	1.06	1.05	1.06	1.05	1.06	1.06	1.06	1.07	1.06	1.0
2	2	33						1.05	1.06	1.04	1.07	1.06	1.0
2	3	34											
2	4	35	1.07	1.08	1.07	1.06	1.06	1.08	1.10	1.08	1.07	1.06	1.0
2	5	36	1.09	1.09	1.09	1.10	1.12	1.09	1.09	1.12	1.11	1.12	1.0
2	6	37	1.10	1.07	1.09	1.09	1.09	1.10	1.08	1.10	1.09	1.09	1.0
2	7	38	1.08	1.10	1.08	1.07	1.08	1.08	1.08	1.08	1.08	1.08	1.0
2	8	39	1.07	1.07	1.07	1.08	1.09	1.06	1.07	1.07	1.07	1.07	1.0
2	9	40	1.07	1.07	1.07	1.07	1.07	1.08	1.07	1.08	1.08	1.08	1.0
2	10	41	1.08	1.06	1.05	1.08	1.06	1.07	1.08	1.07	1.08	1.07	1.0
2	11	42	1.07	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.06	1.08	1.0
2	12	43	1.18	1.13	1.10	1.08	1.08	1.07	1.08	1.08	1.09	1.09	1.0
2	13	44	1.09	1.08	1.09	1.09	1.11	1.08	1.11	1.09	1.09	1.09	1.1
2	14	45	1.08	1.10	1.10	1.10	1.10	1.08	1.08	1.09	1.08	1.10	1.0
2	15	46	1.09	1.08	1.09	1.08	1.08	1.10	1.08	1.09	1.10	1.08	1.1
2	16	47	132.46	1.04	1.12	1.11	1.10	1.08	1.07	1.10	1.09	1.09	1.0
2	17	48	1.06	1.08	1.07	1.06	1.05	1.04	1.05	1.07	1.05	1.05	1.0
2	18	49	1.04	1.04	1.05	1.06	1.02	1.02	1.04	1.03	1.05	1.03	1.0
2	19	50	1.01	1.02	1.02	1.03	1.04	1.02	1.04	1.02	1.03	1.01	1.0
2	20	51	0.99	1.61	234.6	343.1	187.0	1.36	1.03	1.03	1.03	1.01	1.0
2	21	52	0.99	1.01	1.02	1.01	1.02	1.01	1.01	1.04	1.01	1.02	1.0
2	22	53	1.01	1.01	1.00	1.01	1.02	1.01	1.02	0.99	1.00	1.01	1.0
2	23	54	0.99	1.00	1.00	1.00	1.00	1.01	1.00	1.01	1.01	0.99	0.9
2	24	55	1.01	1.01	1.01	1.00	1.00	1.53	628.5	580.3	18.25	1.02	1.0
2	25	56	1.01	1.02	1.01	1.02	1.00	1.02	0.99	1.02	1.03	1.02	1.0
2	26	57	1.02	1.03	1.02	1.01	1.04	1.00	1.03	1.02	1.01	1.03	1.0
2	27	58	1.02	1.04	1.01	1.02	1.02	1.02	1.03	1.03	1.05	1.03	1.0
2	28	59	1.03	1.03	1.06	1.03	1.04	1.03	1.02	1.03	1.01	67.49	695

ONS BY SATELLITE
R 43 (1971–19A)

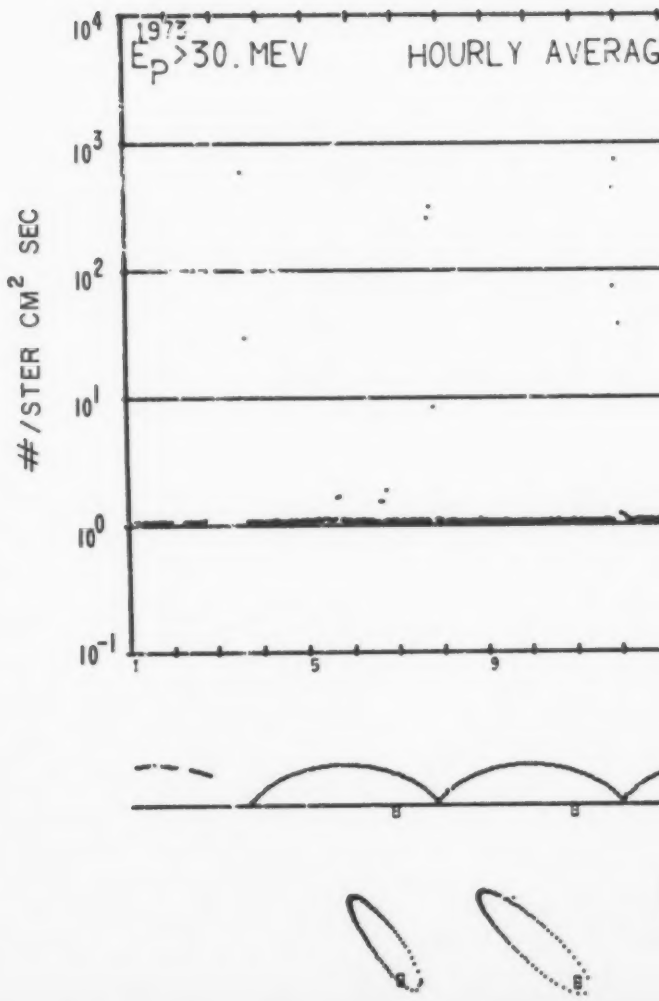
BRUARY 1973

SOLAR PROTON MONITOR. JHU/APL AND NOAA/SEL

HOUR

11	12	13	14	15	16	17	18	19	20	21	22	23	24
1.06	1.05	1.04	1.06	1.05	1.05	1.07	1.07	1.07	1.07	1.06	1.05	1.07	
1.06	1.06	1.06	1.06	1.07	1.06	1.08							
			604.7	30.01	1.07	1.07	1.08	1.07	1.07	1.07	1.07	1.07	1.05
1.07	1.08	1.06	1.08	1.08	1.07	1.09	1.07	1.08	1.08	1.09	1.07	1.10	1.08
1.09	1.10	1.10	1.11	1.64	1.66	1.10	1.12	1.10	1.09	1.08	1.09	1.08	1.07
1.06	1.07	1.08	1.54	1.54	1.07	1.87	1.09	1.07	1.09	1.08	1.09	1.08	1.06
1.08	1.08	1.08	1.07	1.08	1.06	259.9	318.0	8.36	1.08	1.11	1.08	1.08	1.09
1.07	1.06	1.06	1.07	1.07	1.08	1.07	1.07	1.08	1.08	1.07	1.07	1.07	1.07
1.07	1.06	1.05	1.07	1.05	1.08	1.07	1.08	1.07	1.07	1.06	1.06	1.08	1.07
1.07	1.07	1.10	1.09	1.08	1.08	1.06	1.08	1.08	1.08	1.07	1.09	1.08	1.07
1.07	1.07	1.08	1.08	1.09	1.08	1.08	1.07	1.08	75.2	447.5	749.6	37.13	1.19
1.09	1.08	1.09	1.07	1.10	1.08	1.08	1.08	1.09	1.08	1.09	1.09	1.09	1.09
1.10	1.09	1.12	1.12	1.12	1.10	1.11	1.11	1.09	1.11	1.11	1.46	1.10	1.09
1.09	1.11	1.10	1.50	1.55	1.08	1.10	1.09	1.10	1.08	1.09	1.10	1.09	1.11
1.10	1.08	1.07	1.09	1.10	1.09	1.08	1.10	1.09	1.06	1.07	1.08	8.33	632.6
1.07	1.10	1.09	1.09	1.07	1.07	1.09	1.09	1.11	1.08	1.08	1.07	1.07	1.08
1.06	1.05	1.06	1.06	1.05	1.06	1.06	1.06	1.06	1.05	1.03	1.04	1.05	1.04
1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.01	1.01	1.02	1.02	1.02	1.03
1.02	1.03	1.03	1.01	1.03	1.02	0.99	1.02	1.02	1.01	1.01	1.02	1.03	1.02
1.00	1.01	1.00	1.01	0.99	1.01	1.01	1.01	1.03	1.00	1.02	1.03	0.99	1.03
1.01	1.02	1.02	0.99	0.98	1.01	1.00	0.99	1.03	1.00	1.01	1.00	1.05	1.02
1.01	1.00	1.00	0.99	1.00	1.01	1.01	1.00	1.00	1.01	1.00	1.01	0.99	1.00
0.98	0.99	1.01	0.98	0.99	1.00	1.01	0.99	0.99	0.98	1.00	1.00	1.00	1.00
1.04	1.07	1.02	1.02	0.99	1.00	1.01	1.00	1.02	1.01	1.00	1.00	1.02	1.01
1.02	1.00	1.03	1.02	1.04	1.04	1.03	1.00	1.02	1.03	1.02	1.03	1.02	1.02
1.02	1.02	1.03	1.02	1.02	1.04	1.04	1.03	1.02	1.02	1.04	1.02	1.02	1.03
1.03	1.02	1.04	1.03	1.03	1.04	1.43	1.03	1.01	1.03	1.04	1.02	1.04	1.02
4957	4880	1.33	1.04	1.04	1.06	1.08	1.04	1.02	1.02	1.04	1.04	1.03	1.04

SOLAR
EX


1972
E_p>30. MEV
HOURLY AVERAG
#/STER CM^2 SEC
10^4
10^3
10^2
10^1
10^0
10^{-1}
1
5
9
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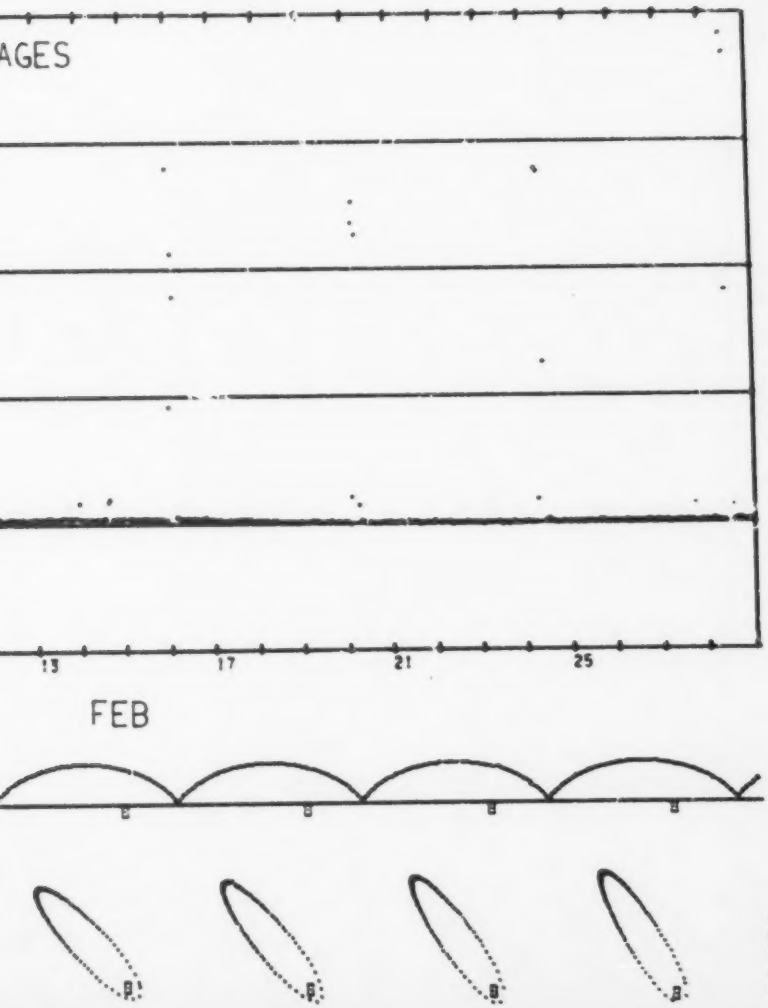
B

AR PROTONS BY SATELLITE
EXPLORER 43 (1971–19A)

FEBRUARY 1973



SOLAR PROTONS
EXPLORER 4

FEBRUA

PROTON ENERGY GREATER THAN 10. MEV. HOURLY AVERAGES. IMPI SOLA

YEAR DATE	DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11
1973												
2 1	32	0.58	0.61	0.65	0.63	0.60	0.60	0.59	0.62	0.59	0.58	0.62
2 2	33						0.63	3.31	0.64	0.61	0.58	0.59
2 3	34											
2 4	35	0.64	0.63	0.64	0.63	0.62	0.65	0.60	0.66	0.64	0.63	0.59
2 5	36	0.56	0.62	0.63	0.60	0.63	0.61	0.58	0.68	0.66	0.67	0.65
2 6	37	0.61	0.62	0.59	0.58	0.63	0.60	0.66	0.64	0.61	0.62	0.56
2 7	38	0.61	0.67	0.60	0.57	0.61	0.60	0.62	0.61	0.60	0.64	0.62
2 8	39	0.62	0.66	0.62	0.58	0.68	0.59	0.63	0.62	0.62	0.61	0.61
2 9	40	0.59	0.58	0.67	0.60	0.61	0.62	0.61	0.60	0.58	0.62	0.64
2 10	41	0.62	0.57	0.59	0.63	0.57	0.60	0.62	0.63	0.60	0.62	0.62
2 11	42	0.59	0.60	0.61	0.61	0.56	0.59	0.66	0.65	0.60	0.69	0.65
2 12	43	55.20	29.42	6.86	0.71	0.61	0.64	0.61	0.62	0.59	0.64	0.63
2 13	44	0.62	0.61	0.63	0.64	0.64	0.63	0.60	0.67	0.63	0.56	0.63
2 14	45	0.63	0.62	0.59	0.61	0.63	0.66	0.62	0.62	0.64	0.64	0.67
2 15	46	0.67	0.62	0.63	0.68	0.61	0.61	0.64	0.63	0.64	0.67	0.62
2 16	47	160	032	859	7.44	2.35	1.71	0.76	0.63	0.65	0.65	0.60
2 17	48	0.60	0.61	0.58	0.59	0.61	0.67	0.62	0.62	0.58	0.61	0.62
2 18	49	0.59	0.61	0.60	0.60	0.63	0.61	0.60	0.56	0.64	0.57	0.58
2 19	50	0.63	0.58	0.60	0.63	0.57	0.56	0.58	0.56	0.61	0.56	0.59
2 20	51	0.81	508.	941	107	652	836	636	249.7	3.10	19.14	12.84
2 21	52	0.57	0.57	0.62	0.58	0.62	0.61	0.63	0.56	0.60	0.57	0.59
2 22	53	0.58	0.58	0.53	0.55	0.54	0.57	0.59	0.54	0.61	0.56	0.57
2 23	54	0.55	0.61	0.58	0.55	0.56	0.53	0.60	0.58	0.58	0.61	0.55
2 24	55	0.86	0.67	1.09	6.31	4.97	265.7	**********		7300	8.85	13.53
2 25	56	0.59	0.58	0.60	0.58	0.57	0.57	0.59	0.59	0.56	0.58	0.59
2 26	57	0.57	0.56	0.57	0.57	0.59	0.60	0.55	0.60	0.60	0.60	0.56
2 27	58	0.61	0.59	0.58	0.61	0.59	0.58	0.59	0.63	0.60	0.62	0.58
2 28	59	0.68	0.59	0.64	1.06	0.76	0.77	0.62	1.29	0.58	10520	*****

ONS BY SATELLITE
R 43 (1971-19A)

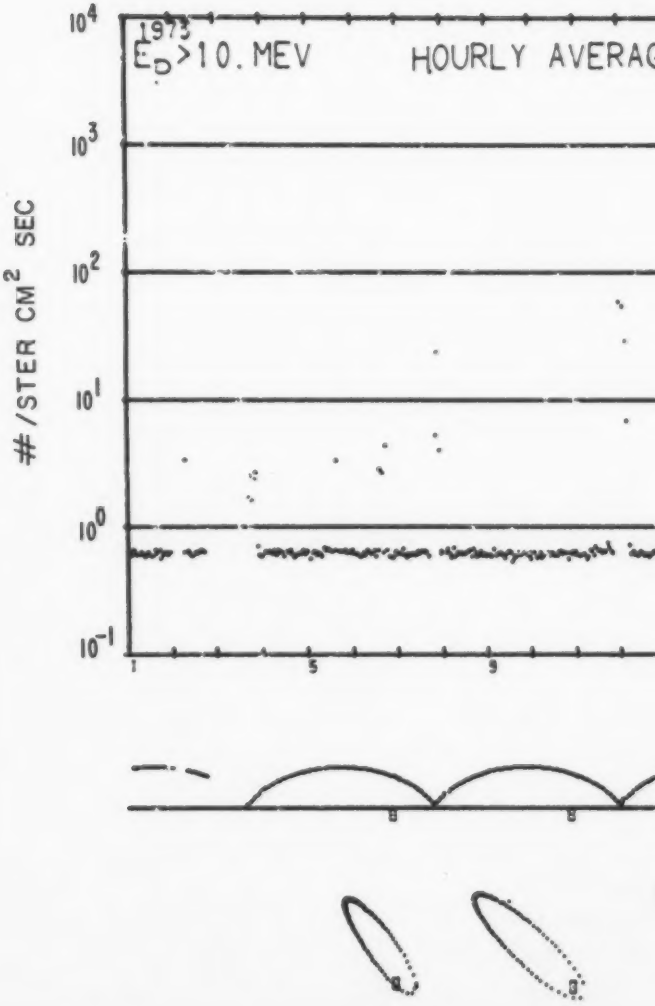
RUARY 1973

OLAR PROTON MONITOR. JHU/APL AND NOAA/SEL

HOUR

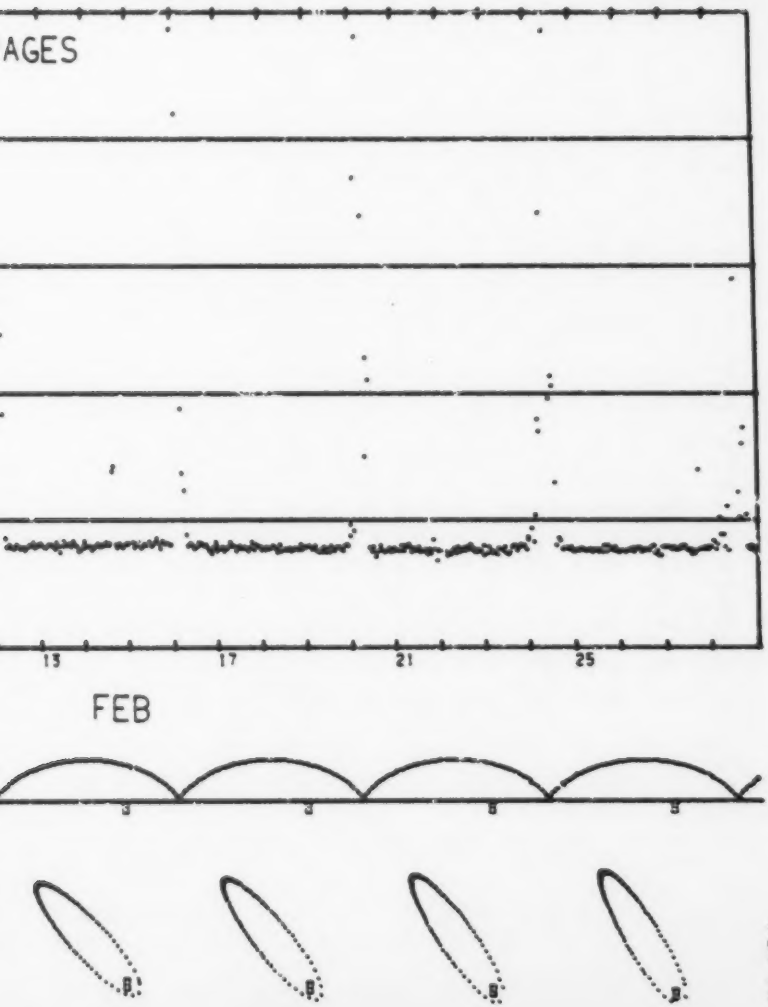
1	12	13	14	15	16	17	18	19	20	21	22	23	24
.62	0.59	0.59	0.59	0.65	0.61	0.65	0.55	0.59	0.63	0.62	0.59	0.62	
.59	0.62	0.62	0.63	0.65	0.65	0.62							
			*****12866	1.72	2.48	1.59	2.40	2.68	0.70	0.60	0.59	0.59	
.59	0.63	0.63	0.65	0.61	0.57	0.60	0.62	0.62	0.61	0.65	0.61	0.65	0.64
.65	0.64	0.64	0.65	3.34	0.64	0.64	0.64	0.65	0.63	0.62	0.64	0.61	0.66
.66	0.58	0.65	2.86	2.70	0.62	4.41	0.65	0.58	0.57	0.58	0.64	0.62	0.62
.62	0.63	0.64	0.63	0.63	0.59	3935816046	3941	5.20	23.97	4.02	0.62	0.64	
.61	0.62	0.64	0.65	0.58	0.67	0.63	0.59	0.59	0.64	0.59	0.62	0.60	0.60
.64	0.63	0.54	0.59	0.59	0.61	0.60	0.61	0.63	0.60	0.62	0.60	0.56	0.62
.62	0.60	0.60	0.64	0.64	0.61	0.62	0.62	0.56	0.63	0.62	0.64	0.60	0.64
.65	0.65	0.63	0.65	0.64	0.75	0.68	0.65	0.62	34298	39262	*****	21013	59.89
.63	0.59	0.61	0.61	0.59	0.62	0.64	0.63	0.68	0.61	0.63	0.65	0.66	0.64
.63	0.69	0.65	0.64	0.65	0.63	0.69	0.64	0.63	0.57	0.58	0.63	0.61	0.68
.67	0.65	0.66	2.42	2.65	0.64	0.61	0.65	0.63	0.61	0.63	0.65	0.65	0.66
.62	0.64	0.67	0.72	0.66	0.60	0.69	0.65	0.65	0.66	0.65	0.65	75786	4033
.61	0.62	0.66	0.66	0.64	0.63	0.64	0.60	0.57	0.55	0.61	0.67	0.62	0.57
.62	0.60	0.60	0.61	0.60	0.57	0.62	0.66	0.58	0.64	0.63	0.61	0.58	0.62
.58	0.59	0.58	0.60	0.58	0.59	0.60	0.59	0.59	0.63	0.59	0.61	0.62	0.61
.59	0.56	0.62	0.60	0.57	0.61	0.61	0.59	0.57	0.62	0.64	0.62	0.75	0.91
.56	0.62	0.52	0.56	0.57	0.63	0.57	0.56	0.57	0.60	0.56	0.59	0.57	0.60
.59	0.61	0.56	0.58	0.57	0.59	0.53	0.58	0.55	0.70	0.58	0.48	0.57	0.57
.57	0.59	0.58	0.62	0.59	0.64	0.59	0.56	0.56	0.58	0.57	0.56	0.53	0.63
.55	0.54	0.55	0.61	0.63	0.63	0.57	0.62	0.64	0.62	0.62	0.58	0.73	0.70
.53	11.35	1.96	0.62	0.71	0.69	0.58	0.59	0.60	0.60	0.58	0.61	0.57	0.56
.59	0.56	0.58	0.56	0.63	0.56	0.62	0.58	0.59	0.57	0.61	0.56	0.57	0.56
.56	0.57	0.59	0.58	0.57	0.61	0.62	0.54	0.57	0.53	0.52	0.62	0.61	0.61
.58	0.57	0.58	0.54	0.54	0.57	2.47	0.58	0.59	0.59	0.62	0.58	0.61	0.62
********		80.03	1.64	1.04	4.03	5.31	1.08	0.61	0.58	0.62	0.60	0.56	0.57

SOLAR
EX


1973
E_p>10. MEV
HOURLY AVERAG
/STER CM^2 SEC
10^4
10^3
10^2
10^1
10^0
10^{-1}
1
5
9
8
8

R PROTONS BY SATELLITE
XPLORER 43 (1971–19A)

FEBRUARY 1973



69
Misc
Feb 73

SOLAR PROTONS
EXPLORER 43

MARCH

PROTON ENERGY GREATER THAN 60. MEV. HOURLY AVERAGES. IMPI SOLAR

YEAR 1973

DATE	DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11
3 1	60	0.97	0.98	0.96	0.97	0.97	0.98	0.96	0.95	0.97	0.96	0.97
3 2	61	0.95	0.96	0.95	0.95	0.95	0.94	0.96	0.96	0.94	0.95	0.95
3 3	62	0.95	0.95	0.96	0.96	0.95	0.97	0.96	0.97	0.95	0.97	0.96
3 4	63	0.94	0.96	0.97	0.97	0.95	0.96	0.97	0.96	0.96	0.98	0.97
3 5	64	0.97	0.95	0.97	0.97	0.98	0.97	0.97	0.98	0.96	0.97	0.96
3 6	65	0.97	0.98	0.99	0.98	0.96	0.98	0.97	0.99	0.96	0.97	0.97
3 7	66	0.99	0.98	0.99	1.00	0.98	0.99	0.99	0.99	0.97	1.00	0.98
3 8	67	1.00	0.97	1.00	0.99	1.01	0.99	0.99	0.97	1.01	0.98	1.00
3 9	68	1.00	0.99	0.98	0.99	0.99	0.99	1.00	1.00	1.00	1.01	0.98
3 10	69	0.97	0.97	0.99	0.98	0.99	0.97	0.99	0.98	0.99	0.98	0.98
3 11	70	0.99	0.97	0.98	0.98	0.99	0.97	0.97	0.99	0.97	0.98	0.97
3 12	71	0.97	0.98	0.97	0.97	0.97	0.97	0.97	0.97	0.96	0.96	0.97
3 13	72	1.82	1.10	1.01	0.99	0.98	0.98	0.98	0.97	0.96	0.98	0.98
3 14	73	0.97	0.97	0.98	0.98	0.97	0.96	0.97	0.99	0.98	0.99	0.99
3 15	74	0.99	0.98	0.97	0.98	0.97	1.00	0.99	0.98	0.99	0.98	0.97
3 16	75	0.98	0.99	0.99	1.02		0.98	0.97	0.98	0.98	0.97	0.96
3 17	76	10.26										
3 18	77											
3 19	78											
3 20	79											
3 21	80						390.2	1.54	0.95	0.94	0.96	0.92
3 22	81	0.93	0.93	0.92	0.93	0.93	0.95	0.94	0.94	0.93	0.94	0.93
3 23	82	0.93	0.93				0.92	0.93	0.92	0.93	0.92	0.92
3 24	83	0.94	0.94	0.92	0.91	0.93	0.94	0.93	0.92	0.93	0.93	0.94
3 25	84	0.92	0.91	0.91	0.93	0.93	0.92	0.93	48.36		24.56	0.92
3 26	85	0.93	0.93	0.92	0.95	0.94	0.94	0.93	0.95	0.94	0.93	0.93
3 27	86	0.94	0.92	0.91	0.95	0.93	0.94	0.94	0.93	0.93	0.92	0.93
3 28	87	1.29	0.93	0.93	0.94	0.93	0.94	0.92	0.92	0.95	0.93	0.93
3 29	88	0.92	0.93	0.94	0.91	0.95	0.93	0.93	0.94	0.94	0.94	0.95
3 30	89	0.97	0.96	0.96	0.96	0.94	0.95	0.95	0.94	0.94	0.93	0.93
3 31	90	0.93	0.96	0.93	0.93	0.95	0.94	0.93	0.95	0.94	0.95	0.94

NS BY SATELLITE
43 (1971-19A)

RCH 1973

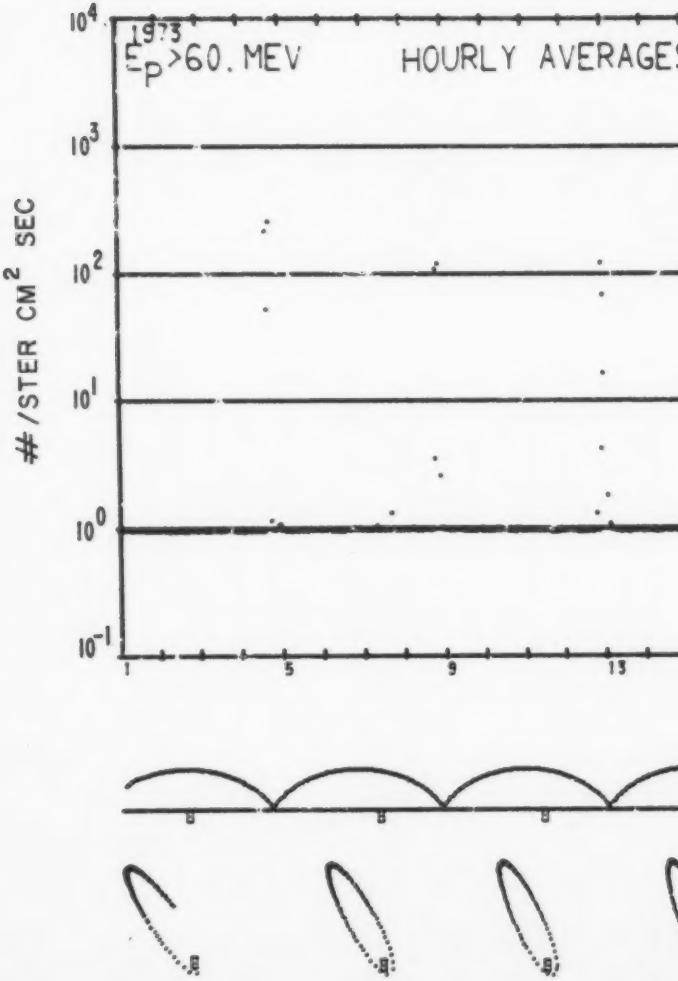
LAR PROTON MONITOR. JHU/APL AND NOAA/SEL

HOUR

	12	13	14	15	16	17	18	19	20	21	22	23	24
97	0.97	0.96	0.97	0.96	0.95	0.95	0.96	0.95	0.95	0.95	0.96	0.95	0.95
95	0.96	0.95	0.94	0.95	0.94	0.97	0.97	0.96	0.96	0.96	0.96	0.95	0.97
96	0.96	0.96	0.97	0.97	0.96	0.95	0.97	0.95	0.97	0.96	0.96	0.96	0.96
97	0.96	0.96	225.6	53.60	261.6	1.14	0.97	0.98	0.97	1.07	1.11	1.00	0.99
96	0.98	0.98	0.97	0.99	1.00	0.99	0.99	0.99	0.98	1.00	0.98	0.97	0.97
97	0.97	0.99	0.99	0.98	0.99	0.99	0.98	0.98	0.99	1.00	0.99	0.98	1.00
98	1.00	0.98	1.00	0.98	1.33	0.99	1.00	0.99	0.99	0.98	0.99	1.00	0.99
00	0.99	1.00	1.00	0.98	0.99	1.00	3.61	111.7	121.1	2.61	1.02	1.00	0.99
98	0.99	1.00	0.98	0.98	0.98	0.98	0.98	0.98	0.99	0.99	0.99	0.98	0.98
98	0.97	1.00	0.98	0.98	0.98	0.98	0.96	0.99	0.99	0.99	0.98	0.98	0.98
97	0.98	0.98	0.97	0.96	0.95	0.97	0.97	0.97	0.96	0.97	0.99	0.97	0.97
97	0.97	0.95	0.98	0.97	0.96	0.97	1.34	0.99	0.98	4.27	124.1	70.28	16.61
98	0.98	0.97	0.96	0.98	0.98	0.97	0.98	0.99	0.99	0.98	0.97	0.97	0.97
99	0.97	0.98	1.00	0.97	0.99	0.99	0.98	0.98	0.99	0.99	0.99	0.98	0.99
97	0.98	0.98	0.99	0.98	0.97	0.98	0.99	0.99	0.98	1.00	0.99	0.98	0.99
96	0.98	0.97	0.98	0.95	0.97	0.97	0.97	0.96	0.95	0.95	0.95	0.95	0.95

92	0.95	0.93	0.91	0.93	0.92	0.91	0.93	0.93	0.91	0.93	0.92	0.92	0.92
93	0.93	0.92	0.92	0.93	0.91	0.94	0.94	0.92	0.92	0.92	0.93	0.90	0.93
92	0.94	0.93	0.94	0.93	0.92	0.93	0.93	0.92	0.92	0.93	0.93	0.94	0.93
94	0.93	0.93	0.92	0.94	0.92	0.93	0.93	0.93	0.92	0.93	0.94	0.92	0.93
92	1.26	0.92	0.94	0.93	0.93	0.93	0.94	0.93	0.95	0.92	0.95	0.94	0.94
93	0.94	1.29	1.43	0.95	0.93	0.94	0.95	0.92	0.94	0.95	0.92	0.93	0.95
93	0.92	0.94	0.93	0.93	0.96	0.93	0.93	0.93	0.94	0.93	0.93	0.93	0.95
93	0.92	0.93	0.92	0.92	0.93	0.93	0.93	0.93	0.94	0.93	0.93	0.93	0.93
95	4.07	171	035.16	0.94	0.93	0.95	0.95	0.95	0.95	0.93	0.95	0.94	0.94
93	0.95	0.93	0.94	0.93	0.94	0.95	0.94	0.93	0.94	0.93	0.94	0.94	0.94
94	0.94	0.94	0.93	0.94	0.94	0.96	0.95	0.95	0.94	0.93	0.91	0.90	0.91

SOLAR PRO
EXPLOR



OTONS BY SATELLITE
ORER 43 (1971–19A)

MARCH 1973

71
Misc
Mar 73

SOLAR PROTONS F
EXPLORER 43

MARCH

PROTON ENERGY GREATER THAN 30. MEV. HOURLY AVERAGES. IMPI SOLAR

YEAR 1973

DATE		DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11
3	1	60	1.05	1.06	1.05	1.05	1.04	1.03	1.04	1.04	1.03	1.04	1.04
3	2	61	1.03	1.02	1.02	1.02	1.03	1.02	1.02	1.02	1.03	1.03	1.01
3	3	62	1.02	1.02	1.02	1.03	1.02	1.04	1.02	1.02	1.02	1.04	1.02
3	4	63	1.03	1.04	1.03	1.05	1.04	1.03	1.05	1.04	1.03	1.03	1.02
3	5	64	1.04	1.04	1.03	1.06	1.05	1.04	1.04	1.05	1.05	1.05	1.04
3	6	65	1.05	1.05	1.04	1.03	1.05	1.05	1.04	1.06	1.04	1.05	1.06
3	7	66	1.06	1.06	1.07	1.09	1.09	1.08	1.07	1.09	1.07	1.07	1.07
3	8	67	1.07	1.06	1.08	1.08	1.07	1.07	1.07	1.07	1.07	1.07	1.08
3	9	68	1.09	1.08	1.08	1.08	1.09	1.08	1.08	1.09	1.07	1.10	1.07
3	10	69	1.07	1.05	1.07	1.06	1.08	1.07	1.07	1.06	1.06	1.05	1.06
3	11	70	1.04	1.06	1.05	1.04	1.05	1.05	1.05	1.04	1.06	1.05	1.05
3	12	71	1.04	1.05	1.05	1.03	1.04	1.05	1.05	1.06	1.05	1.03	1.05
3	13	72	2.44	1.30	1.12	1.08	1.03	1.05	1.05	1.05	1.06	1.06	1.05
3	14	73	1.06	1.05	1.04	1.04	1.05	1.07	1.03	1.05	1.06	1.08	1.05
3	15	74	1.04	1.07	1.06	1.06	1.07	1.07	1.05	1.06	1.06	1.06	1.07
3	16	75	1.08	1.06	1.05	1.08		1.07	1.07	1.04	1.06	1.04	1.04
3	17	76	38.34										
3	18	77											
3	19	78											
3	20	79											
3	21	80						2618	5.44	1.09	1.17	1.16	1.04
3	22	81	0.99	1.01	0.98	1.02	0.99	1.01	1.01	1.01	1.01	0.98	0.98
3	23	82	1.02	0.99				0.96	0.99	1.01	1.00	1.00	1.00
3	24	83	1.01	0.99	1.01	0.99	1.03	0.99	0.99	0.99	1.00	0.99	1.00
3	25	84	0.99	1.00	1.03	1.10	1.00	1.02	1.01	556.0		250.9	0.99
3	26	85	1.00	0.99	0.99	0.98	1.02	0.99	0.99	1.02	1.01	1.00	1.00
3	27	86	1.00	0.98	1.01	1.00	1.01	1.00	1.01	1.01	1.01	0.99	1.01
3	28	87	1.43	1.01	1.00	1.01	1.01	1.00	1.00	1.01	1.02	1.01	1.01
3	29	88	1.02	0.99	0.99	0.99	0.99	1.01	1.01	1.01	1.03	1.02	1.00
3	30	89	1.03	1.05	1.06	1.07	1.06	1.06	1.02	1.04	1.02	1.04	1.02
3	31	90	1.01	1.03	1.02	1.03	1.00	1.03	1.01	1.02	1.02	1.02	1.02

S BY SATELLITE
43 (1971–19A)

CH 1973

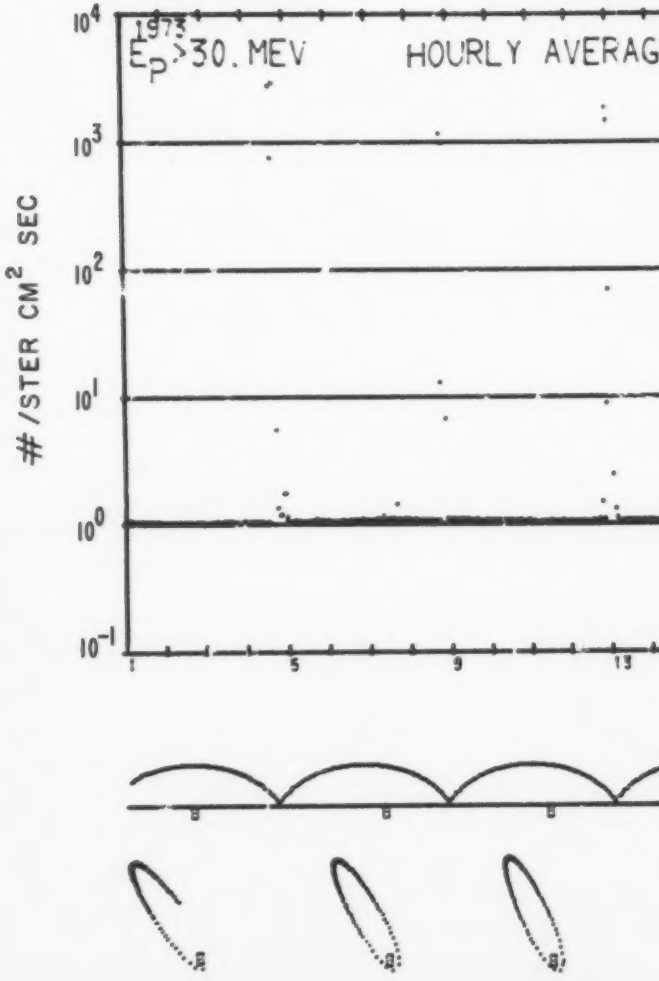
OLAR PROTON MONITOR. JHU/APL AND NOAA/SEL

HOUR

1	12	13	14	15	16	17	18	19	20	21	22	23	24
.04	1.03	1.02	1.04	1.03	1.04	1.03	1.02	1.03	1.04	1.02	1.02	1.02	1.01
.01	1.02	1.01	1.02	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.02	1.01	1.01
.02	1.05	1.04	1.03	1.05	1.03	1.03	1.02	1.02	1.03	1.03	1.02	1.04	1.05
.02	1.06	1.02	2885	764.4	2993	5.49	1.35	1.16	1.19	1.75	1.75	1.14	1.07
.04	1.06	1.05	1.05	1.07	1.08	1.07	1.06	1.07	1.06	1.06	1.05	1.06	1.06
.06	1.07	1.05	1.07	1.07	1.07	1.08	1.07	1.09	1.06	1.07	1.05	1.07	1.06
.07	1.09	1.08	1.09	1.08	1.44	1.09	1.05	1.08	1.09	1.09	1.09	1.09	1.07
.08	1.06	1.07	1.06	1.07	1.07	1.07	13.20	1195	1007	6.74	1.10	1.08	1.09
.07	1.08	1.08	1.07	1.08	1.08	1.05	1.07	1.06	1.07	1.07	1.07	1.08	1.06
.06	1.07	1.04	1.05	1.07	1.05	1.07	1.06	1.06	1.05	1.06	1.06	1.08	1.04
.05	1.06	1.05	1.04	1.05	1.05	1.05	1.05	1.07	1.03	1.05	1.06	1.05	1.04
.05	1.05	1.06	1.04	1.05	1.06	1.09	1.48	1.05	1.10	8.95	1929	15097	0.10
.05	1.05	1.07	1.05	1.03	1.06	1.03	1.05	1.06	1.05	1.06	1.06	1.06	1.05
.05	1.06	1.06	1.04	1.05	1.06	1.07	1.06	1.06	1.06	1.06	1.06	1.05	1.06
.07	1.06	1.06	1.06	1.03	1.05	1.06	1.06	1.05	1.06	1.07	1.06	1.06	1.05
.04	1.06	1.03	1.03	1.04	1.02	1.05	1.03	1.03	1.03	1.05	1.05	1.02	1.06

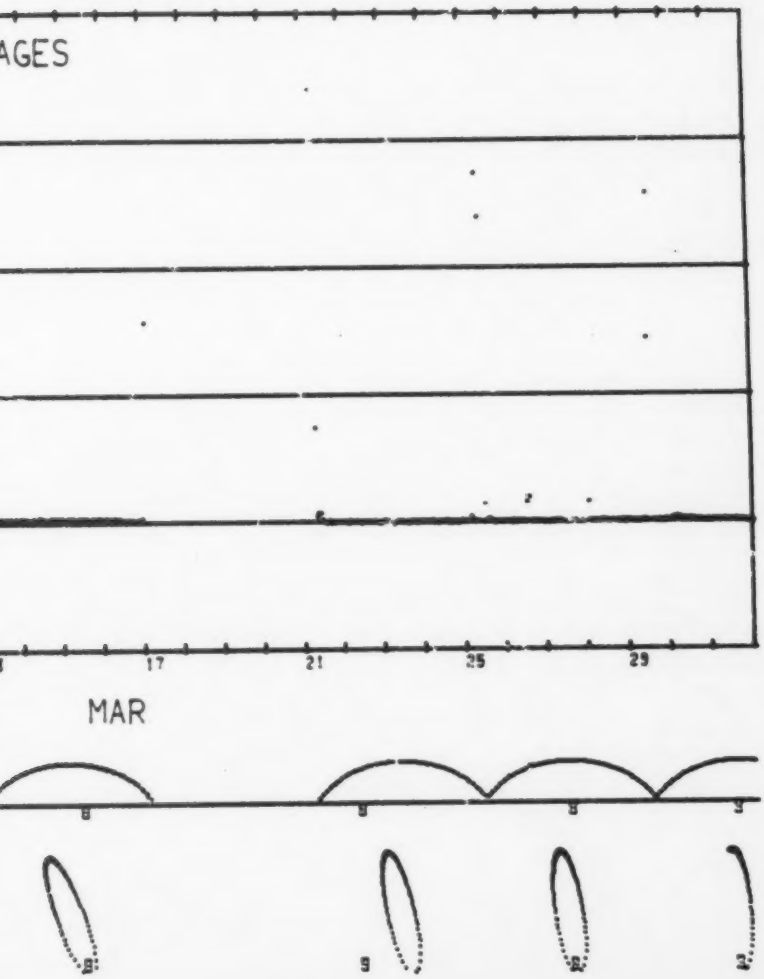
.04	1.00	1.00	0.99	1.02	1.01	0.98	1.01	0.99	0.99	1.00	0.99	0.99	1.00
.98	1.01	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.98	0.98	0.99	1.00
.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00	0.99	0.99	1.00	1.01	1.01	1.00
.00	1.00	1.02	0.98	0.99	0.99	0.99	1.00	0.99	0.99	1.01	1.01	1.01	1.00
.99	1.36	1.01	1.05	1.05	1.01	1.00	0.99	1.00	1.01	1.00	0.99	1.00	1.00
.00	1.00	1.42	1.57	1.01	1.01	1.00	1.00	1.00	1.00	1.01	0.99	0.99	0.99
.01	0.99	1.00	1.00	1.00	1.00	1.02	1.00	1.00	1.01	1.00	1.01	1.00	1.01
.01	1.01	1.01	0.99	0.99	0.99	1.00	1.01	1.00	1.01	1.02	0.98	1.01	1.01
.00	27.67	34	56	33	80.6	1.01	1.01	1.01	1.01	1.01	1.00	1.02	1.02	1.02
.02	1.03	1.03	1.04	1.02	1.03	1.02	1.03	1.01	1.01	1.01	1.03	1.01	1.02
.02	1.02	1.02	1.03	1.02	1.00	1.03	0.99	1.01	0.99	1.00	0.99	0.97	0.99

SOLAR PRO
EXPLO



ROTONS BY SATELLITE
LORER 43 (1971–19A)

MARCH 1973



SOLAR PROTONS B
EXPLORER 43 (

MARCH

PROTON ENERGY GREATER THAN 10. MEV. HOURLY AVERAGES. IMPI SOLAR

YEAR 1973 DATE	DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11	12
3 1	60	0.54	0.60	0.61	0.61	0.59	0.59	0.60	0.57	0.59	0.60	0.56	0
3 2	61	0.59	0.61	0.62	0.59	0.56	0.62	0.58	0.61	0.59	0.57	0.59	0
3 3	62	0.60	0.59	0.61	0.59	0.62	0.61	0.55	0.57	0.62	0.61	0.58	0
3 4	63	0.57	0.57	0.60	0.63	0.58	0.64	0.60	0.59	0.59	0.58	0.58	0
3 5	64	0.60	0.57	0.60	0.60	0.61	0.58	0.58	0.62	0.61	0.60	0.62	0
3 6	65	0.59	0.63	0.61	0.56	0.62	0.58	0.55	0.62	0.60	0.60	0.55	0
3 7	66	0.64	0.66	0.64	0.69	0.64	0.63	0.57	0.64	0.62	0.64	0.58	0
3 8	67	0.63	0.61	0.66	0.59	0.61	0.66	0.60	0.62	0.63	0.62	0.63	0
3 9	68	1.33	0.67	0.63	0.69	0.63	0.64	0.61	0.62	0.60	0.57	0.57	0
3 10	69	0.62	0.65	0.64	0.62	0.60	0.64	0.64	0.61	0.62	0.60	0.59	0
3 11	70	0.66	0.58	0.57	0.58	0.61	0.63	0.57	0.64	0.60	0.63	0.62	0
3 12	71	0.64	0.62	0.59	0.60	0.60	0.67	0.57	0.64	0.59	0.60	0.61	0
3 13	728	50.31	43.63	3.32	13.50	0.68	0.59	0.61	0.54	0.57	0.62	0.58	0
3 14	73	0.61	0.59	0.60	0.61	0.62	0.65	0.62	0.59	0.61	0.63	0.62	0
3 15	74	0.64	0.65	0.63	0.60	0.60	0.64	0.62	0.59	0.57	0.65	0.54	0
3 16	75	0.61	0.59	0.60	0.62		0.60	0.61	0.61	0.60	0.58	0.61	0
3 17	761	2616											
3 18	77												
3 19	78												
3 20	79												
3 21	80						*****	596.	127.	44	24.77	46.15	5.85
3 22	81	0.54	0.62	0.61	0.62	0.54	0.55	0.59	0.61	0.66	0.61	0.57	0
3 23	82	0.57	0.55				0.55	0.60	0.53	0.60	0.55	0.55	0
3 24	83	0.56	0.57	0.56	0.57	0.56	0.58	0.64	0.61	0.58	0.58	0.55	0
3 25	84	0.72	0.67	1.23	8.76	0.90	0.62	0.58	37	589	21	242	1.05
3 26	85	0.60	0.50	0.61	0.63	0.94	0.62	0.58	0.52	0.59	0.54	0.55	0
3 27	86	0.54	0.59	0.52	0.57	0.58	0.57	0.58	0.59	0.58	0.57	0.59	0
3 28	87	2.54	0.60	0.61	0.57	0.55	0.57	0.55	0.59	0.62	0.54	0.57	0
3 29	88	0.56	0.57	0.60	0.56	0.77	0.92	0.73	0.57	0.74	0.66	0.62	3
3 30	89	0.64	0.71	0.67	0.72	0.72	0.68	0.67	0.71	0.72	0.67	0.70	0
3 31	90	0.65	0.60	0.60	0.57	0.64	0.62	0.61	0.51	0.56	0.63	0.58	0

S BY SATELLITE
3 (1971–19A)

CH 1973

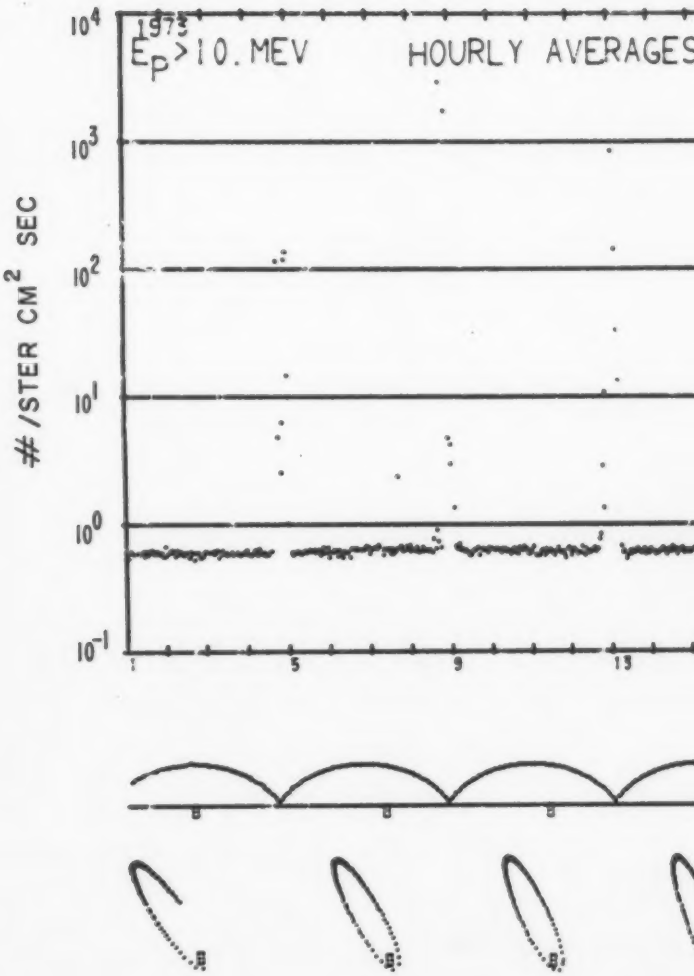
AR PROTON MONITOR. JHU/APL AND NOAA/SEL

HOUR

	12	13	14	15	16	17	18	19	20	21	22	23	24
5	0.61	0.57	0.61	0.63	0.60	0.58	0.61	0.58	0.59	0.60	0.56	0.56	0.66
0	0.60	0.55	0.61	0.59	0.53	0.60	0.60	0.56	0.55	0.56	0.60	0.60	0.61
5	0.58	0.61	0.58	0.57	0.61	0.59	0.59	0.58	0.59	0.60	0.60	0.59	0.62
4	0.60	0.61	*****	4107	5*****	116.7	4.83	2.53	6.20	120.3	137.2	14.55	1.00
2	0.61	0.61	0.62	0.59	0.63	0.62	0.58	0.65	0.60	0.59	0.65	0.55	0.60
5	0.64	0.64	0.63	0.64	0.63	0.62	0.62	0.63	0.63	0.67	0.65	0.63	0.59
8	0.64	0.59	0.62	0.63	2.35	0.68	0.63	0.61	0.63	0.68	0.65	0.61	0.65
3	0.60	0.77	0.64	0.89	0.72	0.65	29	75	87	614	*****	1759	4.70	2.92	4.17
7	0.61	0.63	0.63	0.65	0.58	0.63	0.64	0.63	0.63	0.60	0.65	0.64	0.64
9	0.64	0.65	0.60	0.58	0.65	0.64	0.63	0.67	0.64	0.59	0.59	0.62	0.60
2	0.60	0.58	0.61	0.65	0.61	0.60	0.61	0.59	0.54	0.64	0.65	0.58	0.61
1	0.62	0.65	0.61	0.64	0.77	0.83	2.88	1.34	10.85	42	31	86	14	73	40	71	93	36
8	0.62	0.59	0.63	0.63	0.62	0.60	0.60	0.64	0.58	0.61	0.60	0.64	0.62
2	0.66	0.63	0.63	0.59	0.62	0.63	0.65	0.60	0.63	0.61	0.63	0.62	0.62
6	0.62	0.59	0.59	0.61	0.60	0.61	0.57	0.60	0.60	0.61	0.62	0.64	0.61
1	0.61	0.62	0.62	0.64	0.54	0.61	0.64	0.61	0.59	0.61	0.61	0.62	5.73

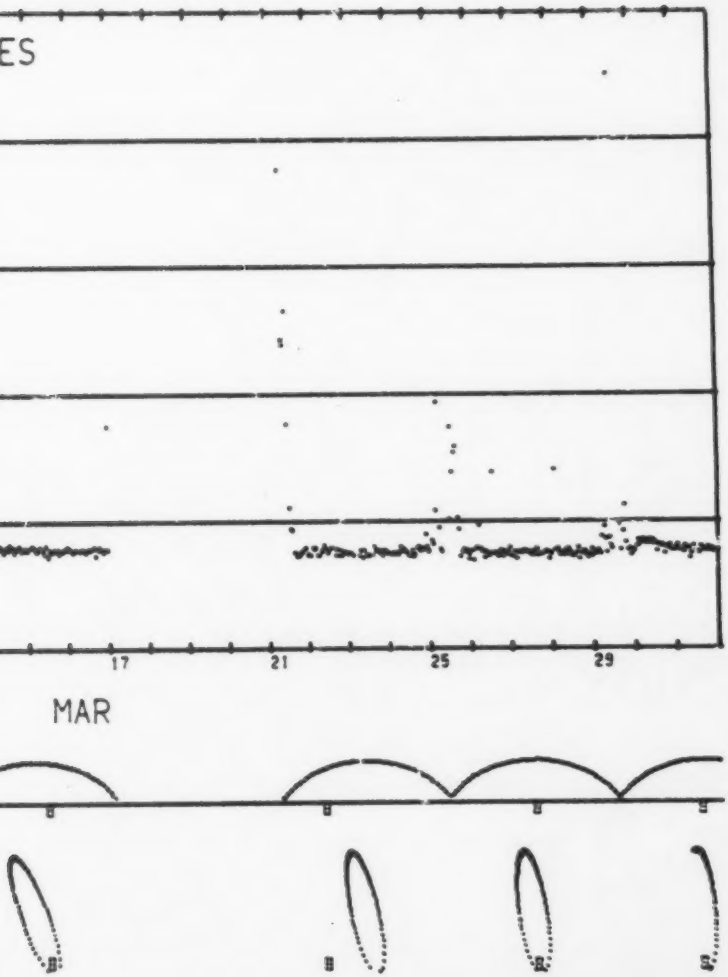
5	1.28	0.88	0.85	0.57	0.57	0.54	0.54	0.57	0.58	0.61	0.62	0.55	0.56
7	0.60	0.62	0.62	0.61	0.55	0.61	0.55	0.60	0.55	0.58	0.57	0.58	0.56
5	0.55	0.55	0.55	0.64	0.60	0.60	0.57	0.60	0.55	0.59	0.59	0.57	0.57
5	0.55	0.60	0.54	0.56	0.63	0.63	0.60	0.59	0.62	0.80	0.63	0.59	0.58
5	5.56	2.45	3.49	3.87	1.08	0.88	0.53	0.59	0.61	0.59	0.59	0.56	0.52
5	0.57	2.44	0.57	0.56	0.53	0.57	0.59	0.54	0.59	0.57	0.57	0.62	0.54
9	0.55	0.55	0.59	0.61	0.55	0.56	0.56	0.57	0.58	0.58	0.52	0.56	0.58
7	0.53	0.55	0.58	0.63	0.51	0.56	0.58	0.58	0.55	0.53	0.56	0.62	0.53
2	33	43	*****	31	19	7	0.94	0.60	0.83	1.34	0.68	0.60	0.61	0.55	0.58	0.60
1	0.66	0.58	0.65	0.64	0.66	0.57	0.62	0.63	0.65	0.59	0.60	0.60	0.60
5	0.57	0.56	0.64	0.61	0.59	0.58	0.62	0.58	0.62	0.59	0.58	0.59	0.62

SOLAR PROTO
EXPLORE



TONS BY SATELLITE
RER 43 (1971–19A)

MARCH 1973



SOLAR PROTONS
EXPLORER 43

APRIL

PROTON ENERGY GREATER THAN 60. MEV. HOURLY AVERAGES. IMPI SOLAR

YEAR 1973 DATE	DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11	1
4 1	91	0.90	0.90	0.87	0.90	0.91	0.91	0.92	0.91	0.91	0.91	0.92	
4 2	92		0.94	0.93	0.91	0.91	0.91	0.91	0.89	0.89	0.90	0.91	
4 3	93	0.88	0.88	0.89	1.21	0.90	0.89	0.88	0.89	0.89	1.20	0.89	
4 4	94	0.88	0.87	0.88	0.87	0.89	0.86	0.86	0.88	0.87	0.88	0.89	
4 5	95	0.88	0.87	0.73	0.84	0.88	0.89	1.49	0.87	1.25	0.89	0.88	
4 6	96	0.90	0.87		0.92	0.89	0.91	0.90	1.30	0.89	0.89	0.90	
4 7	97												
4 8	98												
4 9	99												
4 10	100												
4 11	101	3.43	3.97	0.93	0.92	0.90	0.91	0.89	0.90	0.89	0.89	0.90	
4 12	102	0.90	0.89	0.90	0.90	0.90	0.90	0.89	0.89	0.89	0.90	0.92	
4 13	103	0.91	0.93	0.88	1.29	0.89	0.88	0.88	0.87	0.88	0.87	0.86	
4 14	104	0.83	0.83	0.86	0.84	0.82	0.81	0.80	0.77	0.78	0.79	0.79	
4 15	105	0.78	0.98	78.35	0.79	0.79	0.80	0.77	0.77	0.78	0.79	0.79	
4 16	106	0.85	0.83	0.84	0.85	0.86	0.85	0.88	0.87	0.89	0.90	0.87	
4 17	107	0.88	0.90	0.88	0.88	0.87	0.88	0.86	0.87	0.88	0.88	0.88	
4 18	108	0.88	0.88	0.88	0.90	0.89	0.89	0.87	0.89	0.89	0.89	0.89	
4 19	109					0.88	2.27	491.7					
4 20	110												
4 21	111												
4 22	112												
4 23	113												4
4 24	114	0.90	0.88	0.89	0.89	0.89	0.88	0.89	0.88	0.89	0.90	0.89	
4 25	115	0.89	0.88	0.90	0.90	0.88	0.88	0.89	0.89	0.88	0.89	0.88	
4 26	116	0.89	0.92	0.88	0.87	0.89	0.89	0.89	0.87	0.88	0.88	0.87	
4 27	117			0.79	0.85	0.83		0.85	0.84	0.85	0.98	0.86	
4 28	118	0.86	0.85	0.85	0.86	0.86	0.85	0.85	0.87	0.86	0.87	0.88	
4 29	119	0.89	0.87	0.85	0.87	0.86	0.87	0.87	0.87	0.87	0.87	0.86	
4 30	120		6.22	5.95	4.91	4.13	3.63	3.29	2.76	2.49	2.32	2.32	

S BY SATELLITE

43 (1971-19A)

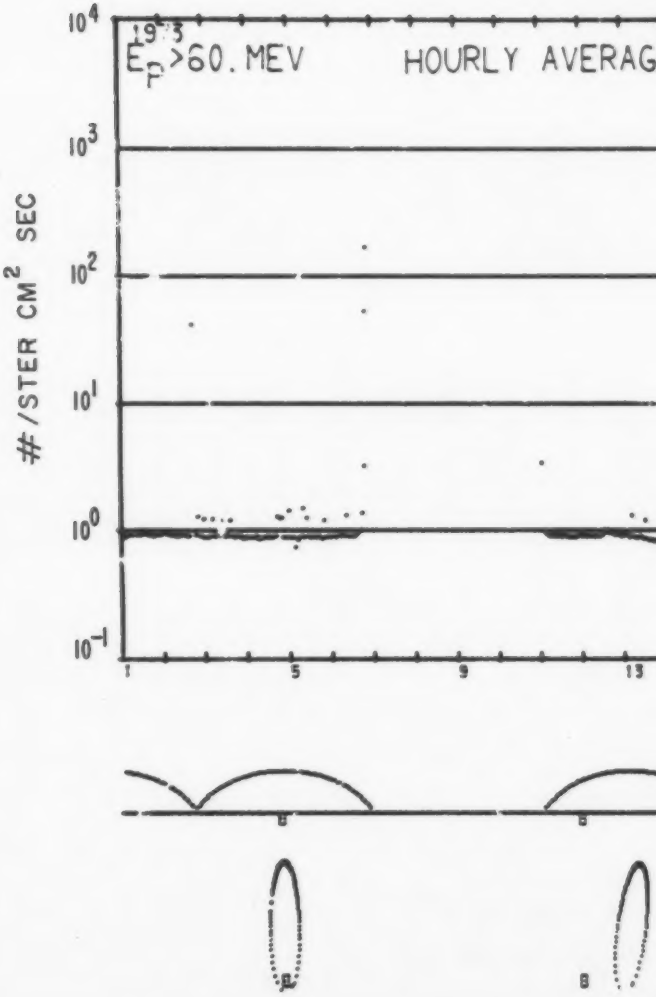
IL 1973

AR PROTON MONITOR. JHU/APL AND NOAA/SEL

HOUR

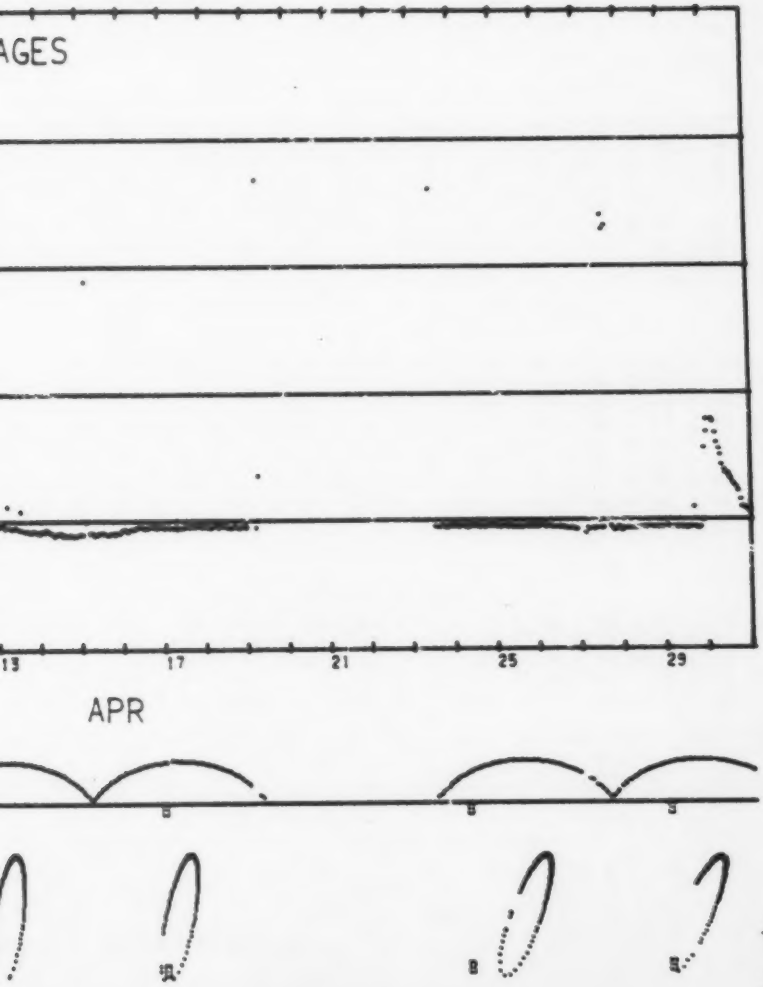
	12	13	14	15	16	17	18	19	20	21	22	23	24
2	0.92	0.95	0.93	0.95	0.92	0.91	0.91	0.90	0.92	0.93	0.92	0.91	
1	0.91	0.91	0.90	0.90		41.72	0.92	0.91	1.27	0.89	0.89	0.88	1.23
9	0.89	0.89	1.21	0.89	0.90	0.88	0.90	0.89	0.88	0.88	0.86	0.88	0.87
9	0.88	0.87	0.88	0.89	0.89	1.27	1.25	1.25	0.87	0.88	0.87	0.87	1.42
8	0.89	0.88	0.89	0.87	0.89	0.88	0.86	1.18	0.87	0.87	0.90	0.88	
0	0.89	0.90	0.94	0.97	0.99	1.37	3.26	53.90	169.9				
0	0.90	0.89	0.89	0.90	0.88	0.90	0.88	0.89	0.88	0.90	0.91	0.91	0.89
2	0.99	0.96	0.97	0.96	0.95	0.94	0.92	0.93	0.94	0.91	0.90	0.91	0.91
6	1.21	0.85	0.83	0.84	0.83	0.83	0.81	0.83	0.84	0.82	0.82	0.81	0.81
9	0.80	0.77	0.78	0.76	0.77	0.78	0.76	0.77	0.76	0.76	0.78	0.78	0.78
9	0.80	0.80	0.78	0.78	0.79	0.80	0.79	0.79	0.79	0.79	0.81	0.83	0.84
7	0.88	0.88	0.88	0.89	0.89	0.90	0.88	0.89	0.88	0.90	0.89	0.90	0.87
6	0.89	0.89	0.88	0.89	0.89	0.88	0.89	0.89	0.90	0.88	0.89	0.90	0.90
9	0.89	0.87	0.88	0.87	0.90	0.90	0.88	0.88	0.88	0.89	0.89	0.87	0.90
	409.0	0.87	0.87	0.88	0.90	0.90	0.88	0.88	0.88	0.89	0.88	0.89	0.89
9	0.89	0.89	0.88	0.89	0.89	0.88	0.89	0.91	0.89	0.89	0.89	0.90	0.88
8	0.88	0.89	0.88	0.88	0.89	0.89	0.87	0.89	0.89	0.87	0.89	0.89	0.88
7	0.88	0.87	0.87	0.86	0.86	0.85	0.86	0.86	0.85	0.85	0.84		
6	0.85	0.85	255.0	195.3	209.9	0.87	0.84	0.82		0.87	0.83	0.86	0.83
8	0.87	0.86	0.88	0.87	0.87	0.86	0.87	0.87	0.85	0.87	0.88	0.87	0.86
6	0.86	0.88	0.87	0.87	1.26	0.87	0.86	0.86	0.87	0.97	3.72	5.00	6.27
2	2.20	2.08	1.96	1.87	1.78	1.68	1.43	1.26	1.25	1.21	1.20	1.20	1.15

SOLAR PROT
EXPLOR



OTONS BY SATELLITE
ORER 43 (1971–19A)

APRIL 1973



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Misc
Apr 73

SOLAR PROTONS
EXPLORER -

APR

PROTON ENERGY GREATER THAN 30. MEV. HOURLY AVERAGES. IMPI SOL

YEAR 1973 DATE	DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11
4 1	91	0.99	0.98	0.96	0.96	1.00	0.97	0.98	1.00	0.99	0.99	0.9
4 2	92		1.01	1.00	0.97	0.99	0.96	0.97	0.99	0.98	1.00	0.9
4 3	93	0.96	0.95	0.97	1.31	0.96	0.96	0.95	0.94	0.96	1.30	0.9
4 4	94	0.93	0.94	0.94	0.93	0.95	0.93	0.93	0.94	0.94	0.94	0.9
4 5	95	0.95	0.95	0.96	0.96	0.95	0.94	1.64	0.95	1.37	0.95	0.9
4 6	96	0.99	0.97		0.87	0.97	0.97	0.96	1.42	0.96	0.96	0.9
4 7	97											
4 8	98											
4 9	99											
4 10	100											
4 11	101	5.37	1.10	1.01	0.98	0.98	0.96	0.99	0.99	0.97	0.97	0.9
4 12	102	0.98	0.97	0.97	0.98	0.97	0.98	0.97	0.99	0.96	0.96	1.1
4 13	103	1.12	1.10	1.11	1.53	1.11	1.18	1.16	1.15	1.16	1.15	1.1
4 14	104	0.89	0.90	0.94	0.91	0.90	0.87	0.85	0.84	0.85	0.84	0.8
4 15	105	0.83	1.16	388.0	0.84	0.82	0.85	0.84	0.83	0.85	0.83	0.8
4 16	106	0.90	0.89	0.90	0.93	0.93	0.94	0.93	0.94	0.94	0.93	0.9
4 17	107	0.95	0.94	0.94	0.94	0.95	0.95	0.94	0.96	0.95	0.96	0.9
4 18	108	0.95	0.95	0.95	0.94	0.97	0.95	0.94	0.96	0.96	0.94	0.9
4 19	109					0.96	7.87	3211				
4 20	110											
4 21	111											
4 22	112											
4 23	113											
4 24	114	0.95	0.97	0.94	0.95	0.95	0.97	0.97	0.96	0.96	0.96	0.9
4 25	115	0.97	0.97	0.96	0.96	0.95	0.97	0.95	0.97	0.95	0.95	0.9
4 26	116	0.94	0.94	0.95	0.94	0.94	0.96	0.93	0.96	0.95	0.95	0.9
4 27	117			0.92	0.91	0.89		0.90	0.91	0.98	1.55	0.9
4 28	118	0.92	0.91	0.92	0.93	0.92	0.92	0.91	0.93	0.93	0.94	0.9
4 29	119	0.94	0.94	0.95	0.93	0.94	0.91	0.92	0.93	0.92	0.94	0.9
4 30	120		13.39	13.25	10.52	8.61	7.37	6.62	5.47	4.78	4.58	4.5

NS BY SATELLITE

2 43 (1971-19A)

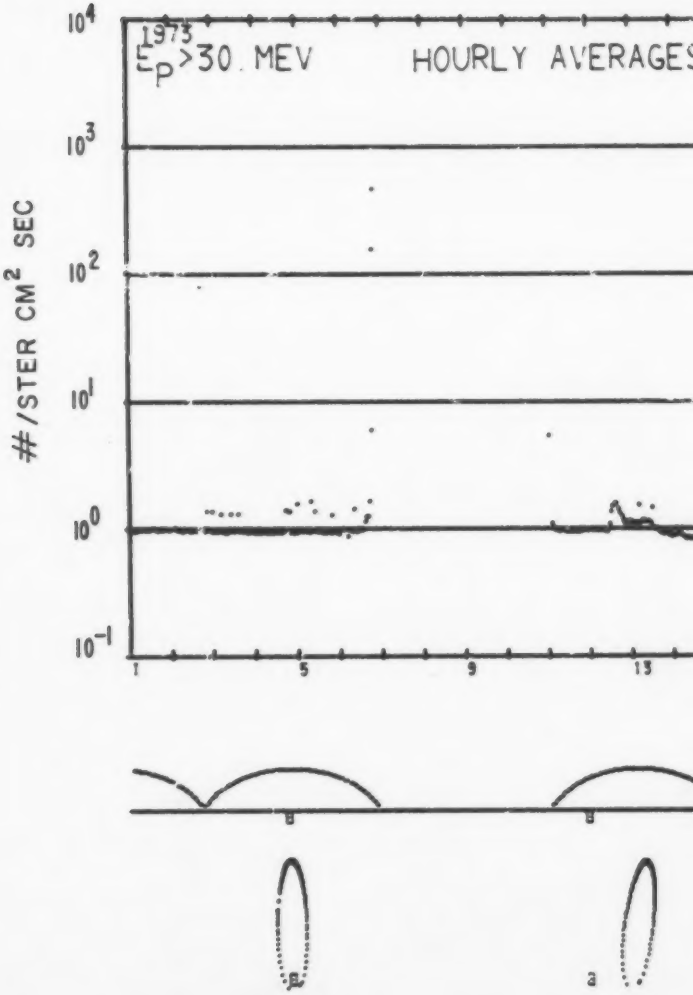
PRIL 1973

SOLAR PROTON MONITOR. JHU/APL AND NOAA/SEL

HOUR

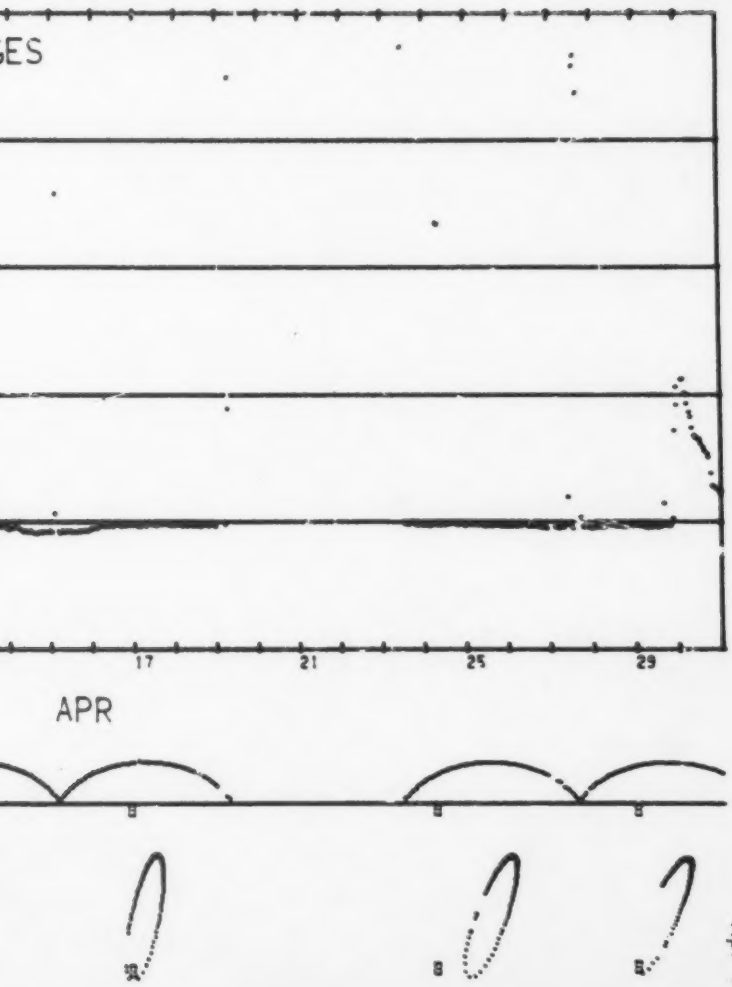
11	12	13	14	15	16	17	18	19	20	21	22	23	24
0.98	0.99	0.99	1.01	0.99	0.97	0.98	1.00	0.98	0.99	0.99	1.00	0.98	
0.96	0.99	0.97	0.97	0.95		81.54	1.01	0.96	1.38	1.00	0.97	0.95	1.36
0.95	0.97	0.97	1.31	0.96	0.95	0.95	0.95	0.95	0.94	0.95	0.95	0.96	0.93
0.94	0.95	0.94	0.95	0.94	0.96	1.39	1.37	1.36	0.93	0.93	0.93	0.94	1.55
0.96	0.95	0.96	0.94	0.94	0.93	0.96	0.94	1.28	0.94	0.95	0.94	0.92	
0.97	0.99	0.97	1.15	1.25	1.25	1.65	5.95	159.9	477.0				
0.96	0.97	0.95	0.96	0.97	0.97	0.95	0.96	0.97	0.97	0.97	0.97	0.97	0.97
1.10	1.37	1.48	1.58	1.57	1.44	1.33	1.24	1.17	1.12	1.13	1.13	1.14	1.13
1.13	1.47	1.03	1.00	1.00	0.95	0.94	0.92	0.94	0.94	0.92	0.90	0.92	0.88
0.84	0.85	0.84	0.82	0.82	0.82	0.84	0.83	0.84	0.83	0.83	0.83	0.84	0.85
0.85	0.84	0.84	0.84	0.85	0.86	0.84	0.86	0.86	0.85	0.86	0.86	0.88	0.90
0.93	0.94	0.95	0.95	0.96	0.93	0.94	0.97	0.94	0.95	0.95	0.95	0.95	0.96
0.96	0.95	0.94	0.95	0.95	0.96	0.95	0.96	0.96	0.96	0.95	0.96	0.94	0.97
0.96	0.96	0.94	0.94	0.94	0.95	0.96	0.95	0.94	0.95	0.95	0.96	0.94	0.93
	5621	0.95	0.95	0.96	1.00	0.99	0.97	0.95	0.95	0.96	0.95	0.95	0.95
0.96	0.95	0.96	0.98	0.98	0.97	0.97	0.96	0.97	0.96	0.97	0.95	0.97	0.94
0.94	0.96	0.96	0.96	0.94	0.95	0.96	0.96	0.95	0.94	0.94	0.95	0.93	0.94
0.93	0.93	0.95	0.95	0.94	0.94	0.93	0.91	0.91	0.91	0.92	0.90		
0.94	0.95	0.90	4032	4777	2397	1.07	0.91	0.91		0.92	0.92	0.93	0.89
0.94	0.95	0.92	0.92	0.94	0.91	0.93	0.92	0.91	0.92	0.94	0.92	0.93	0.93
0.95	0.93	0.92	0.94	0.94	1.39	0.95	0.93	0.95	0.94	1.08	5.28	8.36	11.73
4.51	4.35	4.09	3.83	3.61	3.41	3.19	2.40	1.89	1.87	1.84	1.80	1.75	1.68

SOLAR PROTO
EXPLORE



TONS BY SATELLITE
RER 43 (1971–19A)

APRIL 1973



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Misc
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SOLAR PROTONS
EXPLORER 43

APRIL

PROTON ENERGY GREATER THAN 10. MEV. HOURLY AVERAGES. IMPI SOLAR

YEAR 1973 DATE	DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11
4 1	91	0.56	0.58	0.52	0.54	0.58	0.55	0.55	0.57	0.57	0.56	0.50
4 2	92		0.61	0.57	0.58	0.54	0.64	0.55	0.52	0.56	0.60	1.39
4 3	93	0.53	0.56	0.54	2.24	0.52	0.48	0.53	0.56	0.50	2.23	0.59
4 4	94	0.55	0.58	0.60	0.54	0.50	0.55	4.24	0.48	0.58	4.30	0.58
4 5	95	0.57	5.00	0.27	0.75	0.53	0.53	0.57	0.50	0.54	0.54	0.49
4 6	96	0.55	0.55		0.47	3.67	0.56	0.56	2.75	0.56	0.52	0.55
4 7	97											
4 8	98											
4 9	99											
4 10	100											
4 11	101	296887.78		23.55	19.47	0.55	0.60	0.63	0.61	0.61	0.59	0.61
4 12	102	0.55	0.57	0.56	0.63	0.61	0.59	0.62	0.54	0.58	0.61	0.92
4 13	103	2.94	2.89	3.06	5.08	3.07	4.23	4.35	4.05	4.36	4.59	4.03
4 14	104	1.26	1.10	0.99	0.89	0.91	0.85	0.74	0.73	0.76	0.78	0.69
4 15	105	0.60	112.77	39	30 4.19	0.60	0.59	0.55	0.52	0.53	0.54	0.50
4 16	106	0.54	0.50	0.54	0.59	0.58	0.52	0.51	0.52	0.51	0.49	0.57
4 17	107	0.54	0.53	0.56	0.55	0.54	0.55	0.52	0.56	0.54	0.53	0.51
4 18	108	0.53	0.55	0.53	0.56	0.53	0.51	0.53	0.55	0.57	0.54	0.54
4 19	109					0.56	1739	*****				
4 20	110											
4 21	111											
4 22	112											
4 23	113											
4 24	114	0.56	0.52	0.57	0.53	0.58	0.51	0.56	0.56	0.48	0.51	0.56
4 25	115	0.51	0.54	0.56	0.54	0.56	0.50	0.53	0.58	0.53	0.53	0.50
4 26	116	0.56	0.61	0.51	0.54	0.46	0.51	0.58	0.56	0.53	0.55	0.53
4 27	117			0.32	0.52	0.50		0.59	0.65	14.41	44.21	0.48
4 28	118	0.50	0.52	0.50	0.53	0.56	0.55	0.47	0.47	0.51	0.54	0.51
4 29	119	0.56	0.52	0.52	0.53	0.53	0.52	0.51	0.54	0.49	0.54	0.50
4 30	120		46.57	47.21	38.00	31.85	26.41	23.27	18.89	16.48	15.47	14.87

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Misc
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NS BY SATELLITE

·43 (1971–19A)

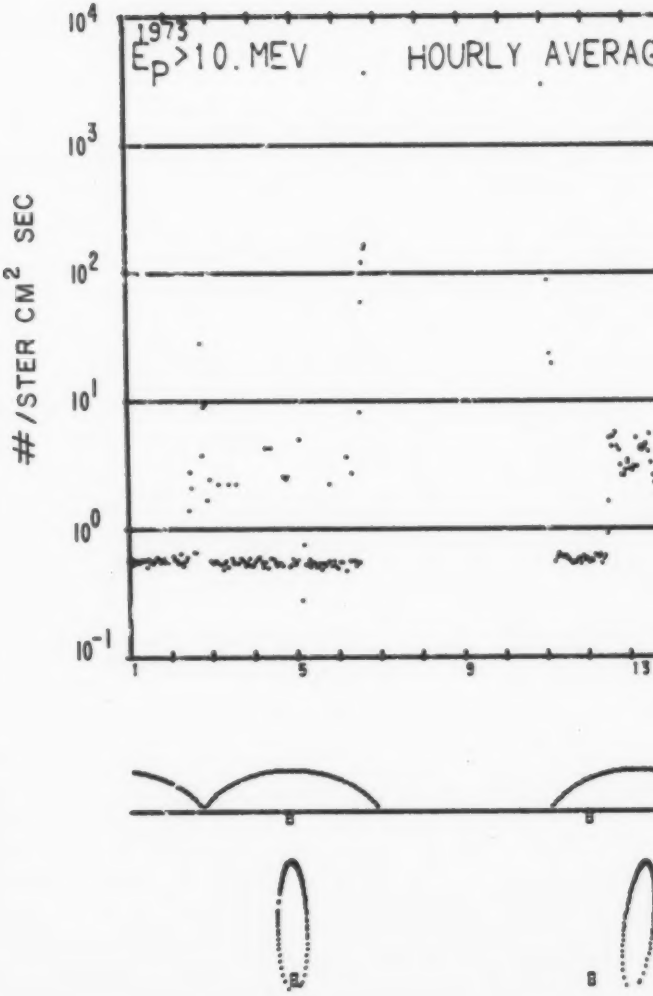
RIL 1973

LAR PROTON MONITOR. JHU/APL AND NOAA/SEL

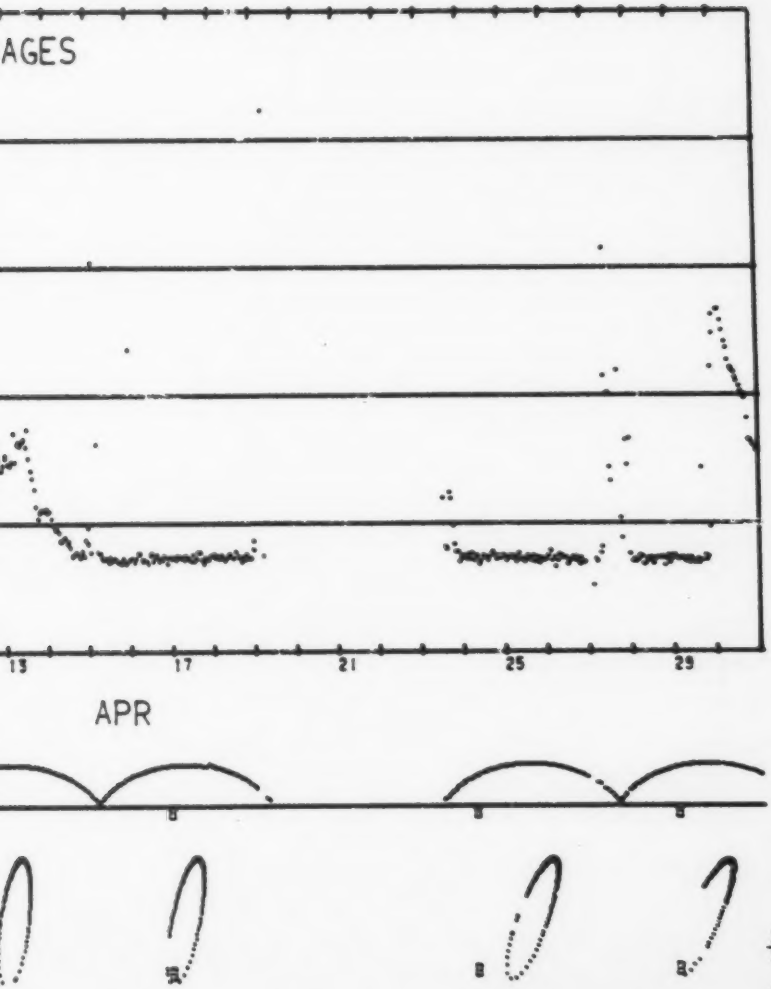
HOUR

	12	13	14	15	16	17	18	19	20	21	22	23	24
60	0.59	0.55	0.56	0.54	0.57	0.60	0.58	0.54	0.57	0.59	0.55	0.55	
89	2.77	2.11	0.66	0.66		5523428.89		3.73	8.89	9.34	1.69	0.56	2.43
59	0.55	0.54	2.25	0.53	0.59	0.57	0.55	0.51	0.53	0.58	0.51	0.52	0.52
58	0.53	0.52	0.53	0.54	0.51	2.57	2.47	2.58	0.50	0.52	0.58	0.52	0.54
49	0.51	0.54	0.48	0.53	0.51	0.53	0.55	2.25	0.51	0.56	0.52	0.49	
65	0.55	8.26	60.39	121.3	157.3	169.0	373	470	887	*****			
61	0.59	0.59	0.55	0.53	0.55	0.55	0.58	0.58	0.53	0.61	0.57	0.58	0.59
92	1.62	5.15	4.33	5.26	5.58	4.42	4.10	3.13	2.63	2.62	2.88	3.42	3.27
03	5.47	3.26	2.60	2.30	1.88	1.38	1.09	1.21	1.27	1.27	1.28	1.22	1.30
69	0.74	0.65	0.56	0.57	0.60	0.59	0.55	0.56	0.61	0.56	0.74	0.93	0.70
60	0.54	0.51	0.52	0.53	0.51	0.50	0.49	0.50	0.54	0.49	0.50	0.52	23.33
67	0.58	0.51	0.55	0.58	0.51	0.54	0.53	0.56	0.55	0.49	0.55	0.55	0.53
61	0.57	0.51	0.54	0.59	0.60	0.52	0.49	0.55	0.52	0.52	0.55	0.56	0.56
64	0.53	0.60	0.54	0.54	0.50	0.55	0.52	0.57	0.53	0.54	0.53	0.73	0.62
	*****	1.56	0.65	0.63	1.75	1.55	0.95	0.69	0.60	0.60	0.50	0.56	0.54
66	0.54	0.54	0.51	0.54	0.57	0.60	0.56	0.52	0.56	0.54	0.55	0.55	0.56
60	0.52	0.56	0.55	0.51	0.56	0.50	0.55	0.54	0.49	0.53	0.51	0.53	0.53
63	0.48	0.52	0.52	0.54	0.52	0.55	0.50	0.48	0.53	0.49	0.50		
48	2.73	2.13	*****	9250	0*****	15.51	1.09	0.77		4.51	2.84	4.62	0.57
51	0.53	0.48	0.52	0.53	0.53	0.54	0.54	0.47	0.53	0.56	0.49	0.53	0.56
50	0.50	0.49	0.53	0.49	2.75	0.51	0.56	0.51	0.55	0.94	16.69	30.24	42.85
3713	.58	12.66	11.78	10.70	10.03	9.31	6.59	4.48	4.35	4.05	3.98	3.75	3.67

SOLAR PRO
EXPLOR



OTONS BY SATELLITE
ORER 43 (1971–19A)
APRIL 1973



81
Misc
Apr 73

SOLAR PROTONS
EXPLORER -

MAY

PROTON ENERGY GREATER THAN 60. MEV. HOURLY AVERAGES. IMPI SOLA

YEAR 1973

DATE	DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11
5 1	121	1.17	1.10	1.13	1.12	1.10	1.10	1.09	1.10	1.07	1.06	1.07
5 2	122	1.00	0.99	0.99	0.97	0.96	0.97	0.95	0.98	0.96	0.96	0.94
5 3	123	0.92	0.91	0.91	0.90	0.91	0.91	0.90	0.91	0.89	0.88	0.91
5 4	124		0.91	0.91	0.90	0.90	0.88	0.89	0.89	0.88	0.88	0.88
5 5	125	0.90	0.89	0.89	0.90	0.88	0.89	0.89	0.89	0.89	0.89	0.89
5 6	126	0.88	0.89	0.90	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.90
5 7	127	0.93	0.90	0.89	0.90	0.90	0.92	0.90	0.89	0.89	0.90	0.88
5 8	128	0.85	0.83	0.86	0.83	0.84	0.86	0.83	0.85	0.83	0.84	0.84
5 9	129	0.83	0.84	0.82	0.82	0.83	0.83	0.82	0.83	0.82	0.83	0.81
5 10	130	258.9	201.6	0.94	0.81	0.81	0.81	0.81	0.80	0.80	0.82	0.80
5 11	131		0.81	0.83	0.82	0.82	0.81	0.82	0.82	0.83	0.84	0.82
5 12	132	0.83	0.84	0.84	0.83	0.83	0.84	0.84	0.84	0.84	0.83	0.85
5 13	133	0.82	0.83	0.84	0.84	0.82	0.85	0.84	0.85	0.85	0.84	0.84
5 14	134	0.82	0.81	0.81	1.10	24.0	435.7	0.79	0.79	0.77	0.78	0.79
5 15	135	0.77	0.77	0.78	0.76	0.75	0.76	0.76	0.76	0.75	0.77	0.76
5 16	136	0.75	0.75	0.77	0.76	0.76	0.76	0.76	0.76	0.76	0.77	0.76
5 17	137	0.76	0.75	0.73	0.75	0.74	0.75	0.76	0.75	0.75	0.75	0.76
5 18	138	0.73	0.74	0.73	0.74	0.76	0.78	0.77	157.3	124.1	806.6	0.74
5 19	139	0.76	0.78	0.78	0.77	0.76	0.77	0.76	0.77	0.76	0.77	0.76
5 20	140	0.78	0.77	0.78	0.78	0.77	0.78	0.79	0.78	0.78	0.78	0.76
5 21	141	0.81	0.80	0.80	0.80	0.80	0.81	0.78	0.77	0.76	0.76	0.76
5 22	142	0.76	0.75	0.76	0.76	0.76	0.77	0.78	0.79	0.80	0.85	2.71
5 23	143											
5 24	144											
5 25	145											
5 26	146											
5 27	147	0.87	0.87	0.87	0.85	0.86	0.86	0.89	0.88	0.88	0.88	0.87
5 28	148	0.89	0.89	0.89	0.89	0.87	0.87	0.87	0.91	0.88	0.89	0.90
5 29	149	0.88	0.90	0.88	0.88	0.88	0.89	0.89	0.89	0.88	0.89	0.88
5 30	150	0.87	0.88	0.88	0.90	0.89	0.89	0.88	0.87	0.86	0.88	0.89
5 31	151	0.90	0.90	0.89	0.88	0.89	0.89	0.90	0.90	0.89	0.88	0.87

NS BY SATELLITE
R 43 (1971–19A)

AY 1973

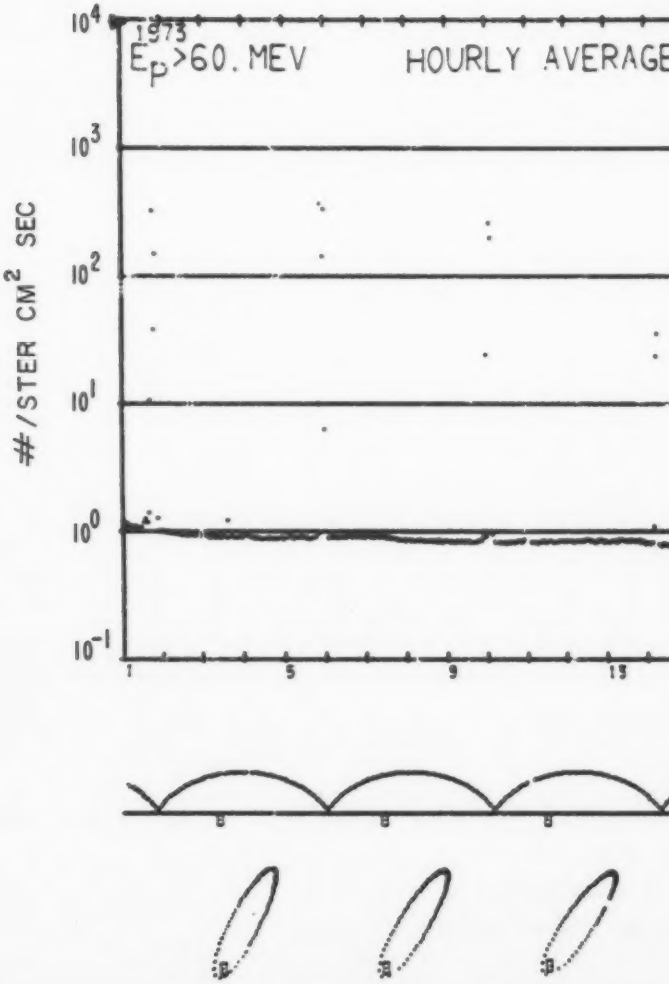
LAR PROTON MONITOR. JHU/APL AND NOAA/SEL

HOUR

12	13	14	15	16	17	18	19	20	21	22	23	24
07	1.08	1.16	1.24	1.18	1.39	10.80	324.4	37.89	148.1	1.25	1.01	1.01	1.00
94	0.96	0.94	0.93	0.93	0.94	0.94	0.93	0.94	0.94	0.94	0.92	0.91	0.93
91	0.91	0.89	1.22	0.90	0.91	0.91	0.90	0.90	0.89	0.91	0.90	0.89	0.91
88	0.87	0.87	0.89	0.88	0.88	0.88	0.87	0.87	0.88	0.90	0.88	0.88	0.87
89	0.90	0.87	0.88	0.88	0.90	0.89	0.90	0.961	0.08	373.4	144.6	335.8	6.20
90	0.89	0.91	0.91	0.89	0.90	0.92	0.89	0.91	0.90	0.89	0.89	0.90	0.90
88	0.89	0.88	0.87	0.87	0.88	0.87	0.86	0.86	0.86	0.86	0.85	0.85	0.86
84	0.83	0.84	0.83	0.83	0.83	0.83	0.82	0.85	0.82	0.82	0.84	0.83	0.83
81	0.83	0.82	0.82	0.82	0.82	0.82	0.83	0.84	0.84	0.89	0.90	0.92	24.50
80	0.82	0.82	0.82	0.81	0.81	0.81	0.83	0.83	0.82	0.83	0.85		
82	0.82	0.83	0.83	0.83	0.81	0.81	0.81	0.83	0.83	0.83	0.84	0.84	0.83
85	0.85	0.86	0.84	0.83	0.82	0.82	0.85	0.83	0.85	0.83	0.82	0.83	0.83
84	0.83	0.83	0.86	0.84	0.84	0.83	0.83	0.85	0.83	0.83	0.81	0.82	0.81
79	0.78	0.79	0.77	0.77	0.80	0.78	0.79	0.79	0.78	0.77	0.76	0.79	0.76
76	0.78	0.74	0.76	0.77	0.77	0.75	0.76	0.75	0.76	0.75	0.75	0.76	0.76
76	0.76	0.75	0.76	0.76	0.75	0.76	0.74	0.75	0.75	0.75	0.74	0.75	0.74
76	0.76	0.75	0.75	0.75	0.74	0.75	0.75	0.76	0.76	0.76	0.75		
74	0.75	0.77	0.76	0.76	0.77	0.77	0.77	0.76	0.75	0.77	0.76	0.77	0.75
76	0.76	0.76	0.77	0.78	0.77	0.78	0.78	0.76	0.78	0.76	0.77	0.77	0.78
76	0.79	0.78	0.79	0.79	0.79	0.79	0.79	0.80	0.80	0.80	0.80	0.79	0.80
76	0.75	0.75	0.74	0.74	0.75	0.75	0.75	0.75	0.75	0.76	0.76	0.75	0.75
71	11	1.5	25.52										

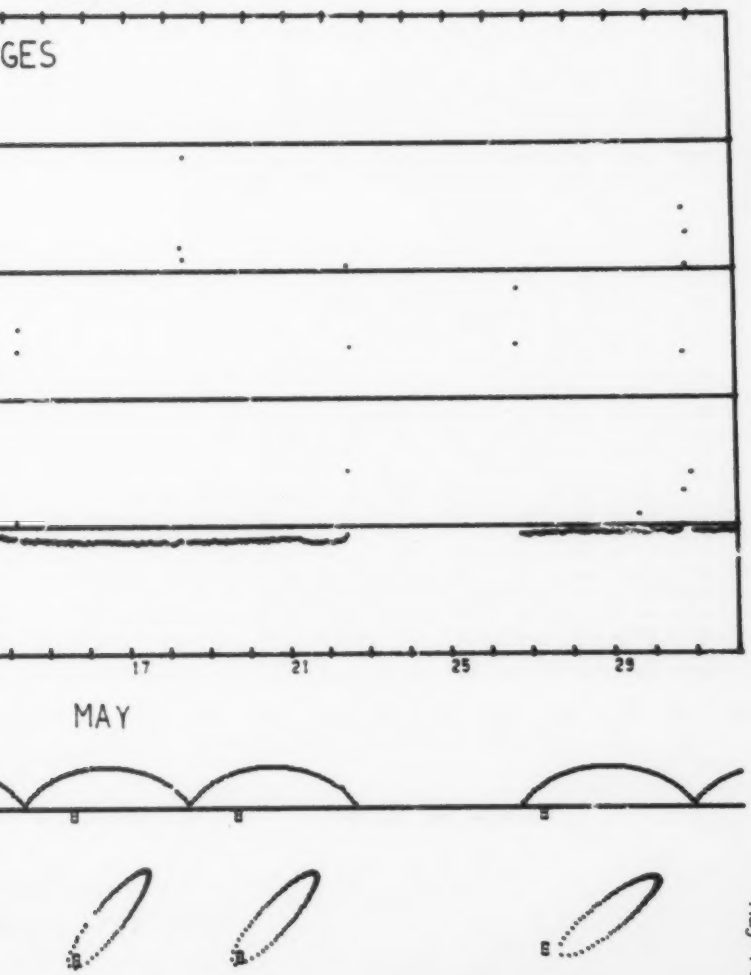
					26.5	973.81	0.85	0.85	0.85	0.85	0.84	0.86	0.85
87	0.89	0.87	0.88	0.89	1.19	0.87	0.86	0.88	0.89	0.89	0.89	0.89	0.90
90	0.89	0.89	0.88	0.89	0.90	0.90	0.88	0.89	0.88	0.88	0.87	0.89	0.89
88	0.88	0.88	0.88	1.22	0.88	0.86	0.88	0.87	0.88	0.87	0.88	0.88	0.89
89	0.89	0.89	0.89	0.91	1.00	1.88	22.66	307.0	108.3	195.9	2.55	0.90	0.89
87	0.89	0.90	0.90	0.90	0.89	0.90	0.91	0.90	0.88	0.89	0.89	0.90	0.90

SOLAR PRO
EXPLOR



OTONS BY SATELLITE
ORER 43 (1971–19A)

MAY 1973



83
Misc
May 73

SOLAR PROTONS
EXPLORER

MAY

PROTON ENERGY GREATER THAN 30. MEV. HOURLY AVERAGES. IMPI SOLA

YEAR 1973 DATE	DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11
5 1	121	1.72	1.63	1.61	1.57	1.57	1.52	1.51	1.51	1.49	1.46	1.45
5 2	122	1.32	1.30	1.29	1.28	1.24	1.23	1.22	1.22	1.19	1.19	1.20
5 3	123	1.14	1.13	1.10	1.12	1.11	1.09	1.11	1.07	1.05	1.07	1.04
5 4	124		1.03	1.02	1.05	1.04	1.02	1.02	1.01	1.03	1.03	1.02
5 5	125	0.99	1.02	0.99	0.99	1.00	0.99	1.00	1.00	1.00	0.99	0.99
5 6	126	0.99	0.99	0.98	0.98	1.00	0.98	0.97	0.98	0.98	0.98	0.97
5 7	127	1.02	0.99	0.99	1.02	1.01	1.01	0.99	1.00	1.01	1.01	0.98
5 8	128	0.94	0.93	0.94	0.92	0.92	0.92	0.91	0.92	0.90	0.90	0.91
5 9	129	0.90	0.90	0.89	0.90	0.88	0.90	0.90	0.88	0.88	0.90	0.88
5 10	130	7243	5233	1.13	0.88	0.90	0.88	0.88	0.89	0.87	0.89	0.88
5 11	131		0.89	0.88	0.89	0.88	0.88	0.90	0.90	0.90	0.88	0.88
5 12	132	0.88	0.91	0.91	0.89	0.90	0.88	0.90	0.90	0.90	0.91	0.92
5 13	133	0.90	0.92	0.89	0.90	0.90	0.91	0.91	0.91	0.92	0.89	0.91
5 14	134	0.87	0.86	0.87	2.26	389.	6243.	4	0.85	0.84	0.85	0.85
5 15	135	0.83	0.82	0.83	0.83	0.82	0.82	0.81	0.82	0.82	0.81	0.82
5 16	136	0.80	0.80	0.80	0.80	0.81	0.80	0.82	0.80	0.80	0.79	0.80
5 17	137	0.80	0.80	0.79	0.79	0.81	0.82	0.80	0.80	0.79	0.81	0.79
5 18	138	0.83	0.81	0.80	0.83	0.83	0.82	0.84	1113	1386	6192	0.81
5 19	139	0.82	0.82	0.82	0.82	0.81	0.82	0.81	0.80	0.81	0.83	0.83
5 20	140	0.83	0.82	0.83	0.83	0.83	0.84	0.84	0.83	0.85	0.83	0.84
5 21	141	0.85	0.84	0.83	0.84	0.86	0.85	0.83	0.82	0.79	0.81	0.82
5 22	142	0.83	0.80	0.81	0.81	0.82	0.82	0.84	0.84	0.84	0.95	4.16
5 23	143											
5 24	144											
5 25	145											
5 26	146											
5 27	147	0.92	0.93	0.93	0.92	0.92	0.94	0.94	0.95	0.92	0.94	0.95
5 28	148	0.95	0.95	0.96	0.96	0.97	0.96	0.96	0.96	0.95	0.95	0.95
5 29	149	0.95	0.97	0.97	0.95	0.96	0.95	0.95	0.95	0.95	0.98	0.95
5 30	150	0.94	0.95	0.95	0.94	0.96	0.94	0.95	0.95	0.95	0.94	0.96
5 31	151	0.95	0.96	0.95	0.97	0.95	0.96	0.95	0.96	0.94	0.95	0.95

ONS BY SATELLITE
R 43 (1971–19A)

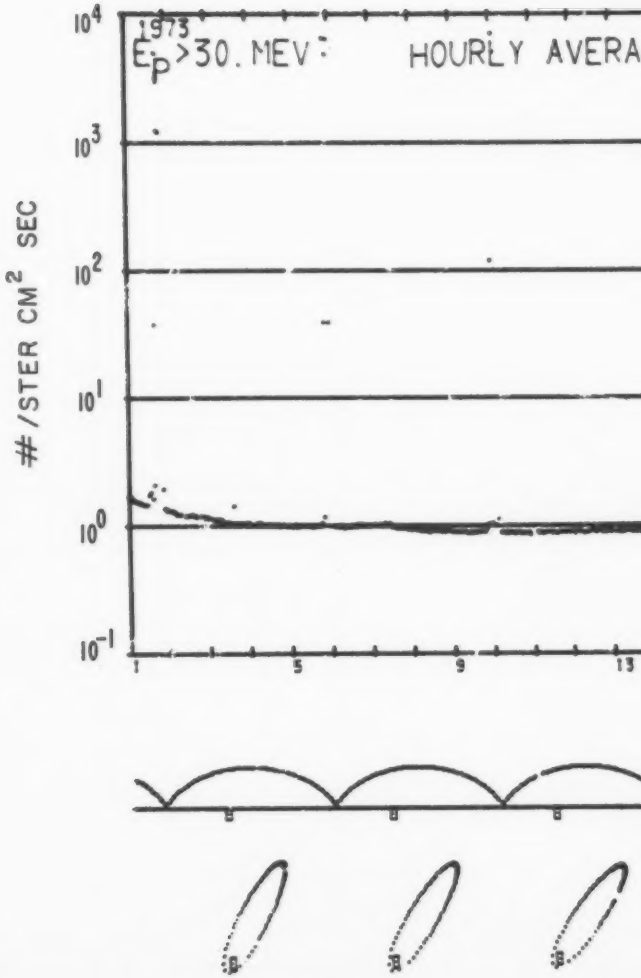
AY 1973

OLAR PROTON MONITOR. JHU/APL AND NOAA/SEL

HOUR

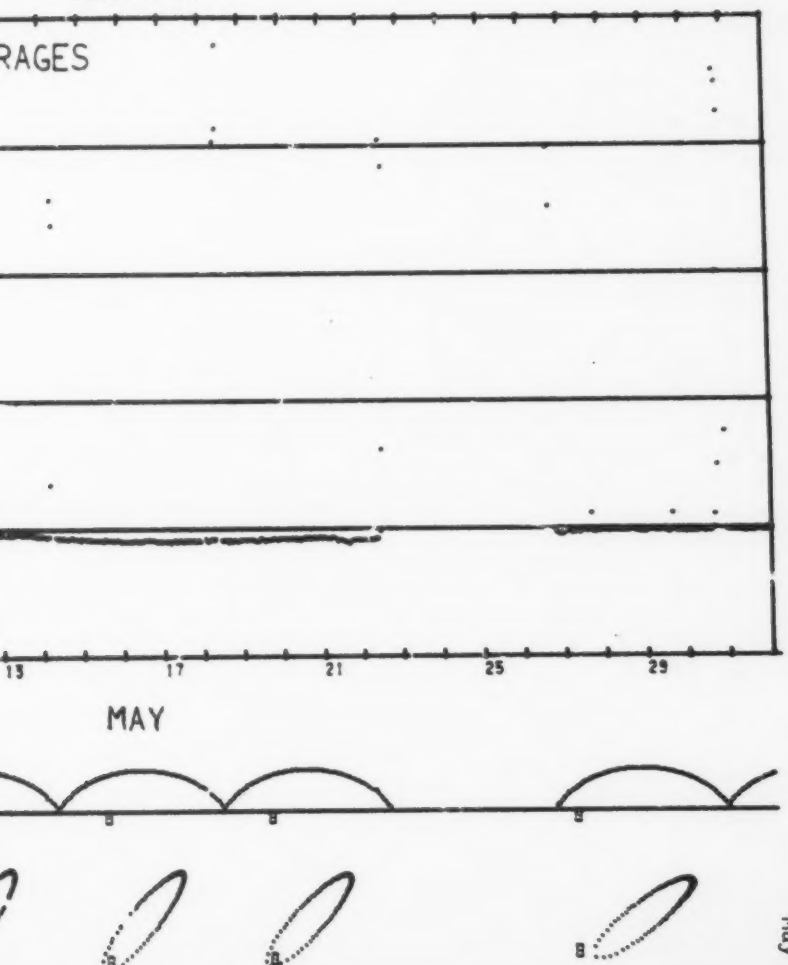
1	12	13	14	15	16	17	18	19	20	21	22	23	24
.45	1.47	1.76	1.85	1.64	2.07	37.96	5141	1239	1220	1.93	1.37	1.33	1.32
.20	1.19	1.21	1.22	1.19	1.18	1.16	1.19	1.20	1.19	1.15	1.16	1.16	1.14
.04	1.04	1.05	1.42	1.05	1.05	1.03	1.04	1.03	1.05	1.03	1.04	1.04	1.05
.02	1.01	1.02	1.01	1.02	1.01	1.00	1.01	1.02	1.00	0.99	1.01	1.00	1.00
.99	0.98	0.99	1.00	0.99	1.01	1.00	1.05	1.174	0.21	6614	4954	653	39.53
.97	0.99	1.00	0.98	1.01	1.01	1.02	1.01	1.00	1.01	1.01	1.00	1.00	1.00
.98	0.98	0.97	0.96	0.96	0.95	0.95	0.96	0.95	0.95	0.94	0.95	0.95	0.94
.91	0.91	0.91	0.90	0.91	0.91	0.90	0.91	0.89	0.91	0.92	0.91	0.90	0.89
.88	0.89	0.88	0.89	0.90	0.90	0.89	0.88	0.90	0.95	1.03	0.99	1.06	121.3
.88	0.88	0.89	0.88	0.90	0.88	0.88	0.87	0.88	0.88	0.90	0.86		
.88	0.89	0.88	0.88	0.89	0.89	0.89	0.89	0.89	0.90	0.90	0.90	0.91	0.91
.92	0.91	0.90	0.91	0.91	0.91	0.90	0.90	0.89	0.91	0.90	0.89	0.91	0.91
.91	0.90	0.91	0.90	0.92	0.89	0.89	0.91	0.88	0.88	0.88	0.89	0.87	0.88
.85	0.84	0.83	0.84	0.84	0.85	0.86	0.83	0.83	0.83	0.84	0.81	0.83	0.83
.82	0.80	0.83	0.82	0.81	0.82	0.81	0.80	0.81	0.82	0.81	0.80	0.80	0.81
.80	0.82	0.82	0.81	0.81	0.81	0.82	0.81	0.80	0.80	0.81	0.80	0.81	0.80
.79	0.79	0.81	0.80	0.81	0.80	0.80	0.81	0.80	0.81	0.81	0.80		
.81	0.81	0.81	0.81	0.79	0.82	0.81	0.80	0.82	0.81	0.80	0.82	0.82	0.81
.83	0.81	0.80	0.82	0.81	0.82	0.82	0.83	0.84	0.82	0.83	0.83	0.83	0.83
.84	0.83	0.85	0.83	0.85	0.84	0.83	0.85	0.84	0.84	0.85	0.85	0.84	0.85
.82	0.81	0.81	0.78	0.77	0.78	0.80	0.81	0.82	0.81	0.81	0.81	0.81	0.82
.16	1140	703.0											
					968.	7337.1	0.92	0.93	0.92	0.90	0.89	0.91	0.92
.95	0.95	0.93	0.94	0.94	1.31	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97
.95	0.96	0.96	0.97	0.98	0.98	0.96	0.96	0.96	0.94	0.96	0.94	0.94	0.96
.95	0.94	0.93	0.95	1.31	0.95	0.96	0.94	0.95	0.95	0.96	0.94	0.94	0.93
.96	0.97	0.96	0.96	0.99	1.27	3.151	03.3	3927	3104	1841	5.53	0.96	0.96
.95	0.95	0.95	0.94	0.96	0.97	0.96	0.96	0.96	0.97	0.95	0.97	0.95	0.97

SOLAR PRO
EXPLO



ROTONS BY SATELLITE
LORER 43 (1971–19A)

MAY 1973



SOLAR PROTON
EXPLORER

MAY

PROTON ENERGY GREATER THAN 10. MEV. HOURLY AVERAGES. IMPI SOL

YEAR 1973

DATE	DAY OF YEAR	1	2	3	4	5	6	7	8	9	10	11
5 1	121	3.32	3.36	3.19	2.92	2.93	2.89	2.87	2.66	2.71	2.61	2.5
5 2	122	5.57	2.09	1.96	1.93	1.78	1.86	1.63	1.74	1.67	1.76	1.6
5 3	123	1.52	1.44	1.38	1.34	1.38	1.22	1.14	1.17	1.13	1.13	0.9
5 4	124		0.93	0.95	1.03	1.04	1.04	0.99	1.00	0.96	0.93	1.0
5 5	125	0.82	0.82	0.82	0.87	0.86	0.78	0.77	0.82	0.76	0.79	0.7
5 6	126	0.91	0.73	0.77	0.84	0.88	0.77	0.71	0.68	0.68	0.66	0.7
5 7	127	0.78	0.62	0.73	0.70	0.73	0.74	0.75	0.72	0.71	0.73	0.6
5 8	128	0.62	0.63	0.67	0.62	0.60	0.65	0.61	0.60	0.61	0.57	0.5
5 9	129	0.52	0.53	0.53	0.59	0.54	0.59	0.59	0.62	0.54	0.56	0.5
5 10	130	**********	155.0	0.52	0.51	0.56	0.60	0.59	0.54	0.54	0.5	
5 11	131		0.60	0.50	0.50	0.55	0.55	0.51	0.55	0.51	0.51	0.5
5 12	132	0.57	0.58	0.51	0.56	0.58	0.57	0.55	0.53	0.52	0.54	0.5
5 13	133	0.59	0.58	0.56	0.59	0.54	0.61	0.58	0.59	0.56	0.50	0.5
5 14	134	0.66	0.81	0.55	201.	212	87	62	89	92	0.57	0.56	0.54	0.61	0.6
5 15	135	0.56	0.52	0.53	0.53	0.53	0.52	0.49	0.50	0.50	0.47	0.5
5 16	136	0.47	0.43	0.48	0.46	0.49	0.50	0.45	0.54	0.48	0.44	0.4
5 17	137	0.59	0.48	0.49	0.47	0.49	0.45	0.48	0.46	0.49	0.51	0.4
5 18	138	0.49	0.50	0.56	2.00	7.97	6.72	3.63	*****	96	939	*****	0.6
5 19	139	0.51	0.49	0.54	0.50	0.54	0.51	0.49	0.52	0.49	0.49	0.4
5 20	140	0.53	0.48	0.45	0.48	0.49	0.47	0.50	0.50	0.46	0.53	0.4
5 21	141	0.46	0.52	0.47	0.52	0.52	0.53	0.47	0.50	0.50	0.51	0.4
5 22	142	0.41	0.48	0.46	0.47	2.21	1.26	3.84	7.06	6.79	46.81	251
5 23	143											
5 24	144											
5 25	145											
5 26	146											
5 27	147	0.53	0.50	0.48	0.53	0.49	0.54	0.55	0.48	0.53	0.48	0.5
5 28	148	0.54	0.49	0.52	0.51	0.55	0.56	0.55	0.55	0.53	0.51	0.5
5 29	149	0.56	0.52	0.49	0.56	0.55	0.56	0.53	0.54	0.56	0.54	0.4
5 30	150	0.58	0.54	0.53	0.54	0.54	0.53	0.56	0.54	0.51	0.54	0.5
5 31	151	0.56	0.51	0.52	0.61	0.52	0.55	0.53	0.57	0.57	0.51	0.5

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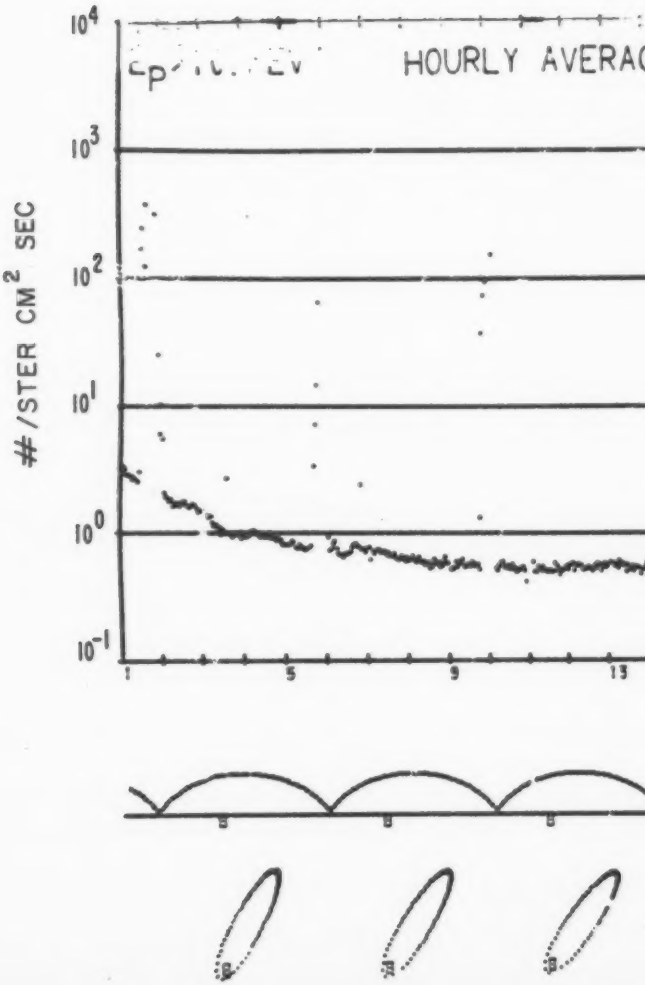
SOLAR PROTON MONITOR. JHU/APL AND NOAA/SEL

HOUR

11	12	13	14	15	16	17	18	19	20	21	22	23	24
2.58	3.07	174.9	251.1	124.1	384.6	13188*****		13343*****		320.1	25.59	10.57	6.10
1.65	1.75	1.79	1.77	1.68	1.63	1.60	1.73	1.67	1.68	1.58	1.54	1.48	1.47
0.99	1.06	1.01	2.74	0.99	1.01	0.97	0.94	0.99	0.99	0.99	0.97	0.92	1.01
1.01	0.93	0.94	1.00	0.93	0.92	0.96	0.92	0.88	0.92	0.90	0.84	0.82	0.82
0.75	0.75	0.76	0.79	0.81	3.40	7.31	14.87	67.52	12528*****		53576*****		6361
0.70	0.70	0.70	0.71	0.78	0.81	0.84	0.79	0.79	2.47	0.74	0.75	0.76	0.71
0.69	0.72	0.67	0.69	0.67	0.70	0.65	0.64	0.62	0.67	0.65	0.63	0.61	0.66
0.59	0.60	0.53	0.55	0.63	0.59	0.58	0.59	0.55	0.56	0.61	0.65	0.58	0.58
0.57	0.56	0.56	0.60	0.55	0.58	0.58	0.52	1.32	38.53	101.7	75.11	96.20	30236
0.56	0.54	0.53	0.57	0.53	0.50	0.51	0.52	0.53	0.54	0.51	0.42		
0.50	0.51	0.51	0.50	0.58	0.51	0.56	0.48	0.52	0.51	0.53	0.55	0.52	0.56
0.54	0.54	0.53	0.51	0.56	0.54	0.58	0.57	0.51	0.55	0.58	0.54	0.57	0.56
0.57	0.52	0.52	0.56	0.51	0.55	0.55	0.54	0.48	0.52	0.52	0.54	0.56	0.58
0.69	0.60	0.56	0.60	0.54	0.56	0.47	0.48	0.49	0.55	0.56	0.52	0.56	0.56
0.51	0.51	0.51	0.46	0.53	0.47	0.45	0.52	0.50	0.52	0.46	0.50	0.50	0.48
0.47	0.51	0.48	0.48	0.52	0.47	0.48	0.46	0.50	0.48	0.47	0.49	0.47	0.55
0.48	0.46	0.47	0.46	0.44	0.46	0.43	0.42	0.46	0.47	0.49	0.53		
0.61	0.54	0.49	0.51	0.48	0.55	0.56	0.51	0.54	0.45	0.55	0.48	0.49	0.61
0.45	0.51	0.48	0.48	0.49	0.49	0.46	0.48	0.53	0.50	0.46	0.47	0.53	0.47
0.47	0.51	0.49	0.47	0.53	0.49	0.50	0.52	0.50	0.50	0.52	0.53	0.49	0.53
0.45	0.44	0.44	0.46	0.43	0.47	0.47	0.46	0.46	0.45	0.47	0.48	0.46	0.45
2517*****		6133											
						1125	0857	19	9.26	0.49	0.54	0.49	0.49	0.50	0.52
0.58	0.53	0.51	0.52	0.51	2.24	0.51	0.58	0.54	0.51	0.56	0.54	0.53	0.50
0.59	0.50	0.53	0.57	0.55	0.58	0.55	0.53	0.52	0.53	0.52	0.53	0.51	0.55
0.48	0.53	0.48	0.52	2.32	0.50	0.53	0.53	0.52	0.60	0.55	0.52	0.52	0.48
0.52	0.55	0.60	2.41	14.20	112.3	11842	7756*****		61470*****		2127	5.48	0.50
0.55	0.54	0.55	0.56	0.53	0.56	0.50	0.56	0.55	0.53	0.53	0.58	0.52	0.51

SOLAR PROT
EXPLOR



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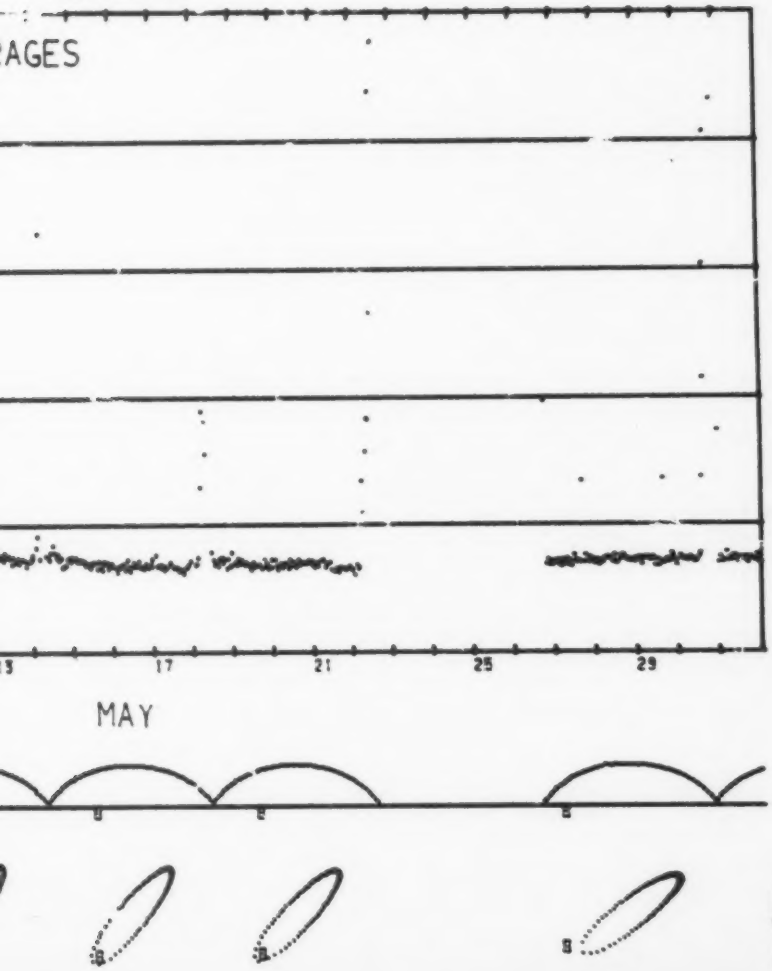

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